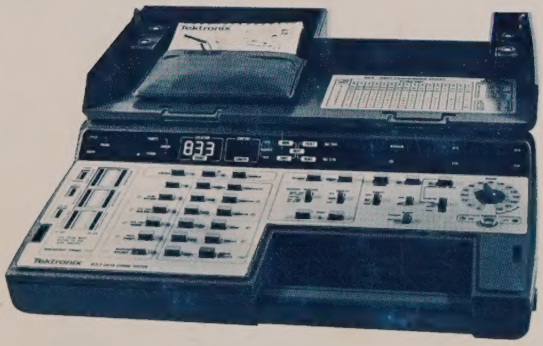
833 APPLICATION GUIDE



CUSTOMER SERVICE

codex
corporation

John HARDIMAN 804

codex
corporation

833
APPLICATION
GUIDE

CUSTOMER SERVICE DEPARTMENT

TECHNICAL SUPPORT

170 FORBES BLVD.

MANSFIELD, MASSACHUSETTS

02048

OCTOBER 1979

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THE TEKTRONIX 833 DATA COMM TESTER IS A PORTABLE INSTRUMENT FOR TROUBLE-SHOOTING, BIT ERROR RATE TESTING, MONITORING AND SIMULATING DATA COMMUNICATION CHANNELS. THE 833 PROVIDES THE CAPABILITIES TO EXERCISE TERMINALS, MODEM LINKS, AND TO MONITOR VARIOUS FORMATS OF DATA TRANSMISSION.

THE MAIN PURPOSE OF THIS GUIDE IS TO FAMILIARIZE YOU, THE USER, IN THE VARIOUS OPERATING MODES OF THE 833 IN DIFFERENT APPLICATIONS. EVERY EFFORT HAS BEEN TAKEN TO ENSURE THAT THIS GUIDE IS CONCISE, LEGIBLE, AND EASY TO USE.

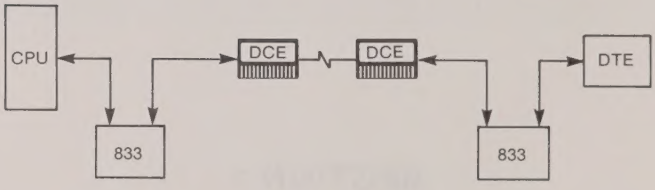
HOPEFULLY YOU WILL TAKE THE TIME TO SUBMIT NEW APPLICATIONS, MESSAGES, OR CORRECTIONS SO THAT THIS GUIDE CAN BE AN EFFECTIVE AND USEFUL TOOL TO YOU.

SECTION 1

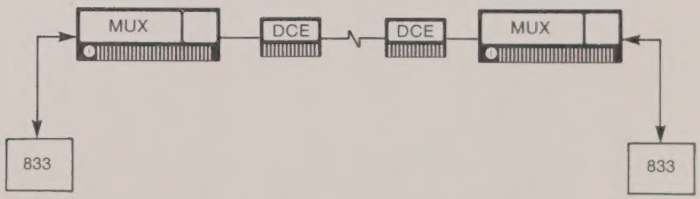
APPLICATIONS

APPLICATIONS

MONITOR MODE

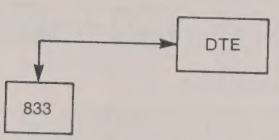


SIMULATE MODE

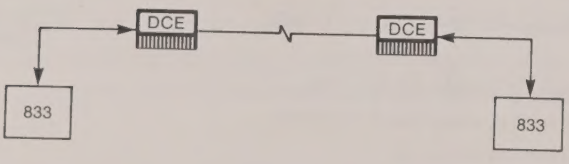


APPLICATIONS

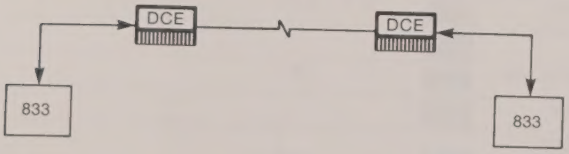
DCE SIMULATION



BERT MODE SYNCHRONOUS



BERT MODE ASYNCHRONOUS

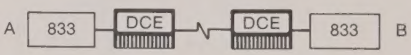


BERT-SYNCHRONOUS

I. APPLICATION

PERFORM A BIT ERROR RATE TEST ON A SYNCHRONOUS COMMUNICATION CHANNEL.

II. BLOCK DIAGRAM



III. 833 SWITCH SETTINGS A & B

SET	POSITION	COMMENTS
BAUD	DCE	
MODE	SYNC	FULL DUPLEX
CLOCK	NORMAL	
PARITY	OFF	
BREAK-OUT PANEL	CLOSED	JUMPER PIN 2 TO PROBE, PIN 3 TO MARKER

IV. PRODUCT SPECIAL INSTRUCTIONS

NO SPECIAL STRAPPING IS REQUIRED.

V. 833 BERT MODE SET-UP

A. SELECT, 8 LEVEL, BERT MODE, CONTINUOUS TEST

PRESS	COUNT	LENGTH
STOP	833	
8		_8
BITS/CHAR	008	
BERT		_b
MODE SELECT	000	b.5
LENGTH	000	b.6
LENGTH	000	b.C

B. START TEST: PRESS START, CLEAR

C ERROR INSERTION PRESS ENTRY ONCE FOR A SINGLE ERROR TO BE INSERTED IN THE 511 DATA PATTERN TO BE TRANSMITTED TO THE OTHER END

PRESS	COUNT	LENGTH
ENTER	0 0 1	b.C
ENTER	0 0 2	b.C

VI. BERT INDICATIONS

1 PROBE AND MARKER SHOULD BE FLASHING INDICATING TRANSMIT AND RECEIVE DATA FLOW. THE "MON" AND "XMIT" INDICATORS SHOULD ALSO BE ILLUMINATED. IF AN ERROR OCCURS, THE COUNT DISPLAY WILL INDICATE SUCH. IF A LOSS OF SYNC OR LINE PERMUTATION OCCURS, THE HUNT INDICATOR WILL FLASH AND THE FAULT INDICATOR WILL REMAIN ON.

2 COMMUNICATION BETWEEN BOTH ENDS SHOULD CONTINUE TILL "STOP" IS DEPRESSED.

VII. SPECIAL TESTS

1 BERT TESTING OF 10^5 BITS CAN BE PERFORMED BY SELECTING b 5

2 BERT TESTING OF 10^6 BITS CAN BE PERFORMED BY SELECTING b 6

3 THE 833 IS 511 DATA PATTERN COMPATIBLE WITH THE IDS 1300 DATA TEST SET.

BERT-ASYNCHRONOUS

I APPLICATION

TO PERFORM A BIT ERROR RATE TEST ON AN ASYNCHRONOUS COMMUNICATION CHANNEL. THE BERT LENGTH WILL BE SET FOR CONTINUOUS TEST.

II BLOCK DIAGRAM

EXAMPLE: 1200 CHANNEL @ 7E1

III 833 SWITCH SETTINGS A & B

SET	POSITION	COMMENTS
BAUD	1200	DATA RATE
MODE	ASYNC	
CLOCK	NORMAL	
PARITY	EVEN	
BREAK-OUT PANEL	CLOSED	JUMPER PIN 2 TO PROBE, PIN 3 TO MARKER

IV PRODUCT SPECIAL INSTRUCTIONS

USING THE 833 ON A 900 TDM, ENSURE THAT THE BITS/CHAR SECTION IS ONE DATA BIT GREATER IF PARITY IS SET. THE 833 INCLUDES THE PARITY BIT IN THE SELECTED BITS/CHAR FIELD. THIS DOES NOT APPLY TO 6000 ASYNCHRONOUS CHANNELS

V 833 BERT MODE SET-UP

A. SELECT, 8 LEVEL CODE, BERT MODE, CONTINUOUS TEST

PRESS	COUNT	LENGTH
STOP	8 3 3	
8		_ 8
BITS/CHAR	0 0 8	
BERT		_ b
MODE SELECT	0 0 0	b.5
LENGTH	0 0 0	b.6
LENGTH	0 0 0	b.c

B START TEST: PRESS START; CLEAR

C. ERROR INSERTION: PRESS ENTER ONCE FOR A SINGLE ERROR TO BE INSERTED IN THE 511 DATA PATTERN FOR TRANSMISSION TO THE OTHER END.

PRESS		COUNT	LENGTH
ENTER		0 0 1	b.C
ENTER		0 0 2	b.C

VI. INDICATIONS

1. PROBE AND MARKER SHOULD BE FLASHING INDICATING TRANSMIT AND RECEIVE DATA FLOW. THE "MON" AND "XMIT" INDICATORS WILL ALSO BE ILLUMINATED. IF AN ERROR OCCURS, THE COUNT DISPLAY WILL INDICATE SUCH. IF A LOSS OF SYNC OR LINE PERMUTATION OCCURS, THE HUNT INDICATOR WILL FLASH, AND THE FAULT INDICATOR WILL REMAIN ON.

2 COMMUNICATION BETWEEN BOTH ENDS SHOULD CONTINUE TILL "STOP" IS DEPRESSED.

3 BERT INFORMATION WILL RESIDE IN 4 BERT REGISTERS. TO DISPLAY A BERT REGISTER FOR ANALYSIS, PRESS THE APPROPRIATE REGISTER BUTTON AND THEN BUFFER SELECT.

VII. SPECIAL TESTS

1 BERT TESTING AT 10^5 BITS CAN BE PERFORMED BY SELECTING b.5.

2 BERT TESTING AT 10^6 BITS CAN BE PERFORMED BY SELECTING b 6

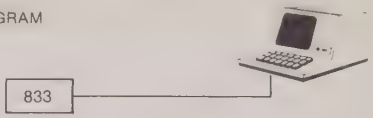
3 BERT MODE IS 511 DATA PATTERN COMPATIBLE WITH THE IDS 1300 DATA TEST SET: ONLY THE 511 DATA PATTERN.

ASYNC-TERMINAL TEST

I. APPLICATION

TO TRANSMIT A 255 CHARACTER MESSAGE TO AN ASYNCHRONOUS TERMINAL AND CHECK FOR PROPER GRAPHIC DISPLAY.

II BLOCK DIAGRAM



III. 833 SWITCH SETTING

SET	POSITION	COMMENTS
BAUD	1200	DATA RATE
MODE	ASYNC	
CLOCK	NORMAL	
PARITY	OFF	
BREAK-OUT PANEL	CLOSED	JUMPER PIN 2 TO PROBE, PIN 3 TO MARKER

IV. PRODUCT SPECIAL INSTRUCTIONS

ENSURE TERMINAL IS CONFIGURED FOR CORRECT PARAMETERS.

V. 833 MESSAGE PROGRAM SET-UP

A. LOAD THE SEND BUFFER WITH STORED MESSAGE BUFFER 1A.

PRESS	LOCATION	CONTENT
STOP	8 3 3	
1	_ _ _	1
A	_ _ _	1 A
BUFFER SELECT	_ _ _	1 A
TRANSFER	_ _ _	0 A

B. SET PARAMETERS: 2 STOP BITS, 7 LEVEL CODE, REPEAT

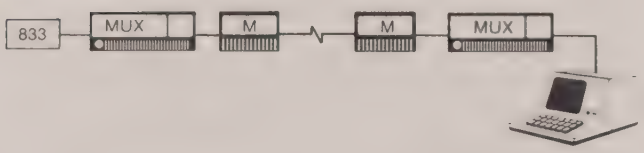
PRESS	LOCATION	CONTENT
2		2
STOP BITS	2 . 0	
7		_ 7
BITS/CHAR	0 0 7	
REPEAT		_ 3
MODE SELECT		0 3

C. START TEST: PRESS START BUTTON

VI. INDICATIONS

1. THE TERMINAL SHOULD DISPLAY A GRAPHIC MATRIX EXACTLY TO THAT SHOWN IN STORED MESSAGE LISTING 1A.

2 THIS MESSAGE TEST CAN ALSO BE USED TO TEST A COMPLETE ASYNCHRONOUS COMMUNICATION CHANNEL AS SHOWN IN THE FOLLOWING EXAMPLE:

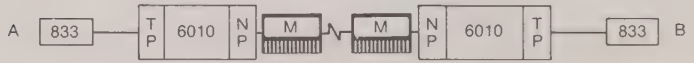


ASYNC-MESSAGE SIMULATION

I APPLICATION

TO TRANSMIT AN ASCII MESSAGE OVER AN ASYNCHRONOUS CHANNEL TRAP THE LAST THREE CHARACTERS IN THE MESSAGE AND RETRANSMIT THE MESSAGE.

II. BLOCK DIAGRAM



III 833 SWITCH SETTINGS A & B

SET	POSITION	COMMENTS
BAUD	1200	DATA RATE
MODE	ASYNC	
CLOCK	NORMAL	
MEMORY CONTROL	STOP	
PARITY	ODD	
DISPLAY	DTE	
BREAK-OUT PANEL	CLOSED	JUMPER PIN 2 TO PROBE, PIN 3 TO MARKER

IV PRODUCT SPECIAL INSTRUCTIONS

NO SPECIAL PROGRAMMING OF THE 6010 IS REQUIRED.

V 833 MESSAGE PROGRAM SET-UP

A. LOAD THE SEND BUFFER WITH STORED MESSAGE BUFFER 08.

PRESS	LOCATION	CONTENT
STOP	8 3 3	
8		8
BUFFER SELECT		8
TRANSFER		0 A

B LOAD THE DTE TRIGGER BUFFER WITH CHARACTERS: 26, 0D, AND 0A

PRESS		LOCATION	CONTENT
DTE TRIG			_7
BUFFER SELECT			07
CLEAR		000	. .
2 , 6			26
ENTER		001	. .
0 , D			0D
ENTER		002	. .
0 , A			0A
ENTER		002	0A

C SET PARAMETERS: 1 STOP BIT, 7 LEVEL CODE, REPEAT

PRESS		LOCATION	CONTENT
1			_1
STOP BITS		1 . 0	
7			_7
BITS/CHAR		007	
REPEAT			_3
MODE SELECT			03

D START TEST. PRESS START BUTTON.

VI INDICATIONS

1 PROBE. MARKER SHOULD BE FLASHING AT EVEN POLLING INTERVALS.

2 POLLING SHOULD CONTINUE TILL "STOP" IS DEPRESSED

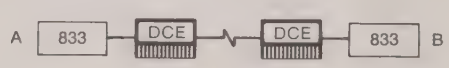
ASYNC-BAUDOT FOX

I. APPLICATION

TO TRANSMIT A 50 BAUD BAUDOT MESSAGE* THROUGH AN ASYNCHRONOUS CHANNEL, END-TO-END AND IN A LOOP TEST TRAP THE LAST CHARACTER AND RETRANSMIT THE MESSAGE.

II BLOCK DIAGRAM

EXAMPLE: 50 BAUD, 5N1.5



III 833 SWITCH SETTINGS A & B

SET	POSITION	COMMENTS
BAUD	50	DATA RATE
MODE	ASYNC	
CLOCK	NORMAL	
MEMORY CONTROL	CENTER	
PARITY	OFF	NO PARITY
DISPLAY	DTE	
BREAK-OUT PANEL	CLOSED	JUMPER PIN 2 TO PROBE, PIN 3 TO MARKER

IV PRODUCT SPECIAL INSTRUCTIONS

THIS TEST CAN BE DONE ON ANY 5,NO AND 1.5/2 50 BAUD DCE EQUIPMENT.

V 833 MESSAGE PROGRAM SET-UP

A. LOAD THE SEND BUFFER WITH STORED MESSAGE BUFFER 1C.

PRESS	LOCATION	CONTENT
STOP	8 3 3	
1	- - -	1
C	- - -	1 C
BUFFER SELECT	- - -	1 C
TRANSFER	- - -	0 A

B. LOAD THE DTE TRIGGER BUFFER WITH CHARACTER 02 (LF).

PRESS	LOCATION	CONTENT
DTE/TRIG	- - -	_ 7
BUFFER SELECT	- - -	0 7
CLEAR	0 0 0	. .
0 , 2		0 2
ENTER	0 0 1	. .

C. SET PARAMETERS: 1.5 STOP BITS, 5 LEVEL CODE, REPEAT

PRESS	LOCATION	CONTENT
1 . 5		1 5
STOP BITS	1 . 5	
5		_ 5
BITS/CHAR	0 0 5	
REPEAT		_ 3
MODE SELECT		0 3

D START TEST: PRESS START BUTTON.

VI. INDICATIONS

1 PROBE, MARKER SHOULD BE FLASHING INDICATING TRANSMIT AND RECEIVE DATA, AT FAIRLY EVEN POLLING INTERVALS

2 POLLING WILL CONTINUE TILL "STOP" IS DEPRESSED OR THE RETURNED LF IS NOT DETECTED

*THE BAUDOT FOX MESSAGE CAN BE SUBSTITUTED BY THE BAUDOT CHARACTER SET MESSAGE, STORED MESSAGE BUFFER 1B.

NAK-MONITOR TEST

I. APPLICATION

MONITOR CUTOMER'S SYNCHRONOUS TRAFFIC AND TRAP IN THE 833's BUFFER THE 255 CHARACTERS PRECEDING THE "NAK".

II. BLOCK DIAGRAM

III. 833 SWITCH SETTING

SET	POSITION	COMMENTS
BAUD	DCE	
MODE	SYNC	FULL DUPLEX
CLOCK	NORMAL	
MEMORY CONTROL	PRE TRIG/STOP	
PARITY	OFF	
BREAK-OUT PANEL	CLOSED	JUMPER PIN 2 TO PROBE, PIN 3 TO MARKER

IV. PRODUCT SPECIAL INSTRUCTIONS

THIS APPLICATION TEST WILL WORK ON ANY SYNC MUX OR MODEM

V. 833 PROGRAM SET-UP

A LOAD *DTE TRIG BUFFER WITH CHARACTER **3D "NAK"

PRESS	LOCATION	CONTENT
STOP	833	
DTE TRIG		_7
BUFFER SELECT		07
CLEAR	000	
3 . D		3d
ENTER	001	

B. SET PARAMETERS. 1 SYN CHARACTER (**32), 8 LEVEL CODE, MONITOR

PRESS	LOCATION	CONTENT
3 . 2		3 2
SYN		3 2
8		_ 8
BITS/CHAR	0 0 8	
MONITOR		_ C
MODE SELECT		0 C

C. START MONITORING PRESS START BUTTON

VI. INDICATIONS

SPACE PROBE FLASHING INDICATING DATA FROM THE BUSINESS MACHINE AND MARKER FLASHING INDICATING DATA TO THE BUSINESS MACHINE THE DISPLAY WILL CONTINUE TO CYCLE TILL THE 833 DETECTS THE "NAK" THE UNIT WILL STOP WITH 833 ON THE DISPLAY WHEN A "NAK" IS DETECTED

VII SPECIAL TEST INSTRUCTOR

BEFORE DOING THIS TEST YOU MUST FIND THE HEX CONVERSION FOR THE "NAK" AND IN WHAT DIRECTION IT IS GOING (INBOUND OR OUTBOUND TO THE LOCAL BUSINESS MACHINE).

TO EXAMINE THE BUFFER AFTER A "NAK" HAS BEEN DETECTED, SIMPLY PRESS EITHER READ BUTTON THE DISPLAY SHOULD SHOW 255 3d** THE BUFFER WILL STORE THE PAST 255 CHARACTERS THAT WERE TRANSMITTED AND RECEIVED BY THE BUSINESS MACHINE AND THE DTE DCE SOURCE INDICATORS WILL SHOW IN WHICH DIRECTION THAT EACH HEX CHARACTER WAS GOING (REFER TO BLOCK DIAGRAM)

*PROGRAM DCE TRIG TO TRAP "NAK s' IN THE OPPOSITE DIRECTION (REFER TO BLOCK DIAGRAM)

**EBCDIC SYN = 32 NAK = 3D
ASCII SYN = 16 NAK = 15

BI-SYNC POLL, LOOP TEST

I APPLICATION

TO TRANSMIT A FOUR CHARACTER BI-SYNC MESSAGE* THROUGH A 6000 SYNCHRONOUS CHANNEL IN A LOOP TEST. TRAP THE ETX CHARACTER AND RETRANSMIT THE MESSAGE.

II BLOCK DIAGRAM

III 833 SWITCH SETTINGS A & B

SET	POSITION	COMMENTS
BAUD	DCE	
MODE	SYNC	FULL DUPLEX
CLOCK	NORMAL	
MEMORY CONTROL	CENTER	
PARITY	OFF	
DISPLAY	DTE	
BREAK-OUT PANEL	CLOSED	JUMPER PIN 2 TO PROBE, PIN 3 TO MARKER

IV PRODUCT SPECIAL INSTRUCTIONS

NO SPECIAL PROGRAMMING OF THE 6000 IS REQUIRED

V 833 MESSAGE PROGRAM SET-UP

A. LOAD THE SEND BUFFER WITH STORED MESSAGE BUFFER 17

PRESS	LOCATION	CONTENT
STOP	8 3 3	
1		1
7		1 7
BUFFER SELECT		1 7
TRANSFER		0 A

B. LOAD THE DTE TRIGGER BUFFER WITH CHARACTER 03 (ETX)

PRESS	LOCATION	CONTENT
DTE TRIG		_ 7
BUFFER SELECT		0 7
CLEAR	0 0 0	. .
0 , 3		0 3
ENTER	0 0 1	. .

C. SET PARAMETERS: 1 SYN CHARACTER (32), 8 LEVEL CODE, REPEAT

PRESS	LOCATION	CONTENT
3 , 2		3 2
SYN		3 2
8		_ 8
BITS/CHAR	0 0 8	
REPEAT		_ 3
MODE SELECT		0 3

D. START TEST: PRESS START BUTTON

VI. INDICATIONS

1 SPACE PROBE, MARKER AND DTE SOURCE FLASHING AT EVEN POLLING INTERVALS.

2 POLLING SHOULD CONTINUE TILL "STOP" IS DEPRESSED

VII SPECIAL TEST

1 THE POLLING/RESPONSE RATE CAN VARIED BY ALTERING THE 6000 PROGRAM. THIS TEST CAN BE USED TO FINE TUNE A 6000 CHANNEL THAT IS SUPPORTING A 3270 APPLICATION.

2 DISRUPT CARRIER SYSTEM BETWEEN THE 6000's. THE 833 POLLING SHOULD CONTINUE WITHOUT MANUAL INTERVENTION WHEN THE CARRIER SYSTEM IS RE-ESTABLISHED AND THE 6000 ACQUIRES FRAME

3. BOOTING THE 6000 WILL STOP THE 833 TEST.

*THE FOUR CHARACTER MESSAGE CAN BE SUBSTITUTED BY A 243 TEST BY ENTERING 16 INSTEAD OF 17. THE 6000 TCE SHOULD BE 90 OR BELOW WHEN TRANSMITTING TEST MESSAGE 16.

TRANSPARENT, LOOP OR END TO END TEST

I APPLICATION

TRANSMIT A 10 CHARACTER BLOCK THROUGH A 6000 IN THE BSC TRANSPARENT MODE. TRAP ON THE RCV EOB AND RETRANSMIT THE MESSAGE. THE MESSAGE WILL ONLY BE SENT ONCE, IF THE 6000 DOES NOT GO INTO THE TRANSPARENT MODE.

II BLOCK DIAGRAM

III. 833 SWITCH SETTINGS A & B

SET	POSITION	COMMENTS
BAUD	DCE	
MODE	SYNC	FULL DUPLEX
CLOCK	NORMAL	
PARITY	OFF	
DISPLAY	DTE	
MEMORY CONTROL	CENTER	
BREAK-OUT PANEL	CLOSED	JUMPER PIN 2 TO PROBE, PIN 3 TO MARKER

IV PRODUCT SPECIAL INSTRUCTIONS

NO SPECIAL PROGRAMMING IS NEEDED FOR THE 6000 TO DETECT TRANSPARENT MODE

V. 833 MESSAGE SET-UP

A. LOAD THE SEND BUFFER WITH STORED MESSAGE BUFFER 19.

PRESS	LOCATION	CONTENT
STOP	833	--
1	---	-1
9	---	19
BUFFER SELECT	---	19
TRANSFER	---	0A

B CLEAR AND LOAD THE DTE TRIGGER BUFFER WITH CHARACTERS: 10, 03

PRESS	LOCATION	CONTENT
DTE TRIG	- - -	_ 7
BUFFER SELECT		0 7
CLEAR	0 0 0	. .
1 . 0		1 0
ENTER	0 0 1	. .
0 3	- - -	0 3
ENTER	0 0 2	. .

C SET PARAMETERS. 1 SYN CHARACTER (32), 8 LEVEL CODE, REPEAT

PRESS	LOCATION	CONTENT
3 . 2		3 2
SYN		3 2
8		_ 8
BITS/CHAR	0 0 8	
REPEAT		_ 3
MODE SELECT		0 3

D START TEST PRESS START BUTTON

VI INDICATIONS

1 THE 6000 WILL GO INTO THE TRANSPARENT MODE WHEN IT DETECTS SYNC, DLE STX AND OUT OF IT WITH DLE ETX DURING THIS PERIOD THE 6000 WILL IGNORE ALL DELIMITORS AND WILL SYNC FILL SYN DLE (32 10) IF THE 6000 DOES NOT DETECT SYN DLE STX IT WILL AUTOMATICALLY SHUT OFF THE UART WHEN THE 833 TRANSMITS THE DELIMITORS ETX EOB, OR ENQ WHICH ARE IN THE STORED MESSAGE # 19.

2 WHEN PERFORMING THIS TEST IN A LOOP, THE 6000 WILL USUALLY INSERT SYNC'S UNLESS IT IS PROGRAMMED FOR

OP - MODE = 0A
CHARACTER DELAY = 20

WHICH IS ONLY AVAILABLE IN 49-XX OR HIGHER

49:XXSW BI-SYNC FILL, LOOP TEST

I. APPLICATION

TRANSMIT A 243 CHARACTER BLOCK THROUGH A 6000 SYNC CHANNEL IN LOOP. TRAP THE LAST 255 CHARACTERS IN THE RECEIVE BUFFER AND COUNT THE SYNC FILLS.

II. BLOCK DIAGRAM

III. 833 SWITCH SETTINGS A & B

SET	POSITION	COMMENTS
BAUD	DCE	
MODE	SYNC	FULL DUPLEX
CLOCK	NORMAL	
PARITY	OFF	
DISPLAY	DTE	
MEMORY CONTROL	CENTER	
BREAK-OUT PANEL	CLOSED	JUMPER PIN 2 TO PROBE, PIN 3 TO MARKER

IV. PRODUCT SPECIAL INSTRUCTIONS

REMOTE TP IN "R" LOOP OR TRUNK LOOP WITH THE LOCAL TP's ADJACENT NODE CHANGED. OP MODE = ØA AND CD = 255

V. 833 MESSAGE PROGRAM SET-UP

A. LOAD SEND BUFFER WITH STORED MESSAGE BUFFER 16.

PRESS	LOCATION	CONTENT
STOP	8 3 3	
1 . 6		1 6
BUFFER SELECT	_ _ _	1 6
TRANSFER	_ _ _	0 A

B CLEAR TRIGGER BUFFERS.

PRESS	LOCATION	CONTENT
DTE TRIG	- - -	_ 7
BUFFER SELECT	_ _	0 7
CLEAR	0 0 0	. .
DCE TRIG		_ 4
BUFFER SELECT		0 4
CLEAR	0 0 0	. .

C LOAD DCE TRIGGER BUFFER WITH 32.

PRESS	LOCATION	CONTENT
DCE TRIG	- - -	_ 4
BUFFER SELECT	_ _ _	0 4
3 . 2	- - -	3 2
ENTER	0 0 1	. .

D SET PARAMETERS 1 SYN CHARACTER (32), 8 LEVEL CODE, REPEAT

PRESS	LOCATION	CONTENT
3 . 2		3 2
SYN	_ _ _	3 2
8		_ 8
BITS/CHAR	0 0 8	
REPEAT		_ 3
MODE SELECT		

E. START TEST, PRESS START BUTTON.

1. PRESS STOP AFTER PROBE STOPS FLASHING.

2. PRESS, SEARCH, MODE SELECT.

3. REPEAT PREVIOUS STEP TILL ALL OF THE SYNC FILLS (32) IN THE REV BUFFER HAVE BEEN COUNTED.

4. TO REPEAT TEST, PRESS STOP, START.

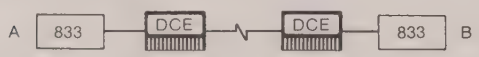
VI. NOTES:

DO NOT COUNT THE NORMAL SYNC CHARACTERS AT THE START OF THE MESSAGE AS SYNC FILLS. REFER TO STORED MESSAGE LISTING 16 FOR THE ACTUAL FORMAT. THE CONTENTS OF THE RCV BUFFER CAN BE EXAMINED BIT BY BIT, BY INCREMENTING OR DECREMENTING THE BUFFER ADDRESS WITH THE READ BUTTONS. IF THE 6000 IS OPERATING CORRECTLY, THERE WILL BE NO SYNC FILLS.

I. APPLICATION

TO TRANSMIT A BI-SYNC MESSAGE* OVER A SYNCHRONOUS COMMUNICATION CHANNEL. TRAP THE LAST THREE CHARACTERS IN THE MESSAGE, CALCULATE THE CRC, LRC VALUES AND COMPARE THOSE RESULTS WITH THE RECEIVED MESSAGE.

II BLOCK DIAGRAM



III 833 SWITCH SETTINGS A & B

SET	POSITION	COMMENTS
BAUD	DCE	
MODE	SYNC	FULL DUPLEX
CLOCK	NORMAL	
MEMORY CONTROL	STOP	
PARITY	OFF	
DISPLAY	DTE	
BREAK-OUT PANEL	CLOSED	JUMPER PIN 2 TO PROBE, PIN 3 TO MARKER

IV PRODUCT SPECIAL INSTRUCTIONS

NO SPECIAL STRAPPING IS REQUIRED.

V. 833 MESSAGE PROGRAM SET-UP

A. LOAD THE SEND BUFFER WITH STORED MESSAGE BUFFER 14.

PRESS	LOCATION	CONTENT
STOP	8 3 3	
1	- - -	_ 1
4	- - -	1 4
BUFFER SELECT	- - -	1 4
TRANSFER	- - -	0 A

B. CALCULATE THE CRC, LRC VALUES:

CRC= 5278 , LRC= 23

PRESS	LOCATION	CONTENT
SEND		_ A
BUFFER SELECT		0 A
READ◄	0 0 0	F F
READ►	0 0 9	0 1
MARK	– – –	_ 0
MODE SELECT	0 0 9	0 1
8 , 2		8 2
READ►	0 9 1	0 3
CRC	– – –	_ 8
MODE SELECT	. 5 2	7 8
LRC	– – –	_ 2
MODE SELECT	. – –	2 3

C. LOAD THE DTE TRIGGER BUFFER WITH THE CRC, LRC VALUE 52, 78, 23.

PRESS	LOCATION	CONTENT
DTE TRIG		_ 7
BUFFER SELECT		0 7
CLEAR	0 0 0	. .
5 , 2		5 2
ENTER	0 0 1	.
7 , 8		7 8
ENTER	0 0 2	. .
2 , 3		2 3
ENTER	0 0 2	2 3

D. SET PARAMETERS: 1 SYN CHARACTER (32), 8 LEVEL CODE, REPEAT

PRESS		LOCATION	CONTENT
3 , 2			3 2
SYN			3 2
8			_ 8
BITS/CHAR		0 0 8	
REPEAT			_ 3
MODE SELECT			0 3

E. START TEST: PRESS START BUTTON

VI. INDICATIONS

1. PROBE, MARKER AND DTE SOURCE FLASHING AT EVEN POLLING RATE
2. POLLING SHOULD CONTINUE TILL "STOP" IS DEPRESSED

*MESSAGE BUFFER 14 COULD BE SUBSTITUTED BY ANOTHER MESSAGE BUFFER WHICH IS PROGRAMMED IN A BI-SYNC FORMAT (REFER TO STORED MESSAGE LISTINGS SECTION)

BI-SYNC-SYNC FILL TEST

I APPLICATION

RECEIVE A 243 CHARACTER BLOCK THROUGH A 6000 SYSTEM FROM A REMOTE 833 TRAP THE LAST 255 RECEIVE CHARACTERS AND COUNT THE SYNC FILLS.

II. BLOCK DIAGRAM

III. 833 SWITCH SETTINGS A & B

SET	POSITION	COMMENTS
BAUD	DCE	
MODE	SYNC	FULL DUPLEX
CLOCK	NORMAL	
PARITY	OFF	
DISPLAY	DTE	
MEMORY CONTROL	CENTER	
BREAK-OUT PANEL	CLOSED	JUMPER PIN 2 TO PROBE, PIN 3 TO MARKER

IV PRODUCT SPECIAL INSTRUCTIONS

NO SPECIAL PROGRAMMING IS REQUIRED FOR THE 600.

V. 833 MESSAGE PROGRAM SET-UP "A" ONLY

A. LOAD THE SEND BUFFER WITH STORED MESSAGE BUFFER 17.

PRESS	LOCATION	CONTENT
STOP	8 3 3	
1 , 7	- - -	1 7
BUFFER SELECT	- - -	1 7
TRANSFER		0 A

B. LOAD THE DCE TRIGGER BUFFER WITH CHARACTER (32)

PRESS	LOCATION	CONTENT
DCE TRIG		_ 4
BUFFER SELECT		0 4
CLEAR	0 0 0	. .
3 , 2		3 2
ENTER	0 0 1	. .

C. SET PARAMETERS: 1 SYN CHARACTERS (32), 8 LEVEL CODE, REPEAT

PRESS	LOCATION	CONTENT
3 , 2		3 2
SYN		3 2
8		_ 8
BITS/CHAR	0 0 8	
REPEAT		_ 3
MODE SELECT		0 3

D. START TEST.

1. PRESS START AFTER B UNIT HAS BEEN PROGRAMMED
2. PRESS STOP AFTER PROBE STOPS FLASHING
3. PRESS SEARCH MODE SELECT
4. REPEAT LAST STEP TILL ALL OF THE SYNC FILLS IN THE RCV BUFFER HAVE BEEN COUNTED

VI. 833 MESSAGE PROGRAM SET-UP "B" ONLY

A. LOAD THE SEND BUFFER WITH STORED MESSAGE BUFFER 16.

PRESS	LOCATION	CONTENT
STOP	8 3 3	
1 , 6	- - -	1 6
BUFFER SELECT	- - -	1 6
TRANSFER		0 A

B. LOAD THE DTE TRIGGER BUFFER WITH CHARACTER (03)

PRESS	LOCATION	CONTENT
DTE TRIG		_ 7
BUFFER SELECT		0 7
CLEAR	0 0 0	. .
0 , 3		0 3
ENTER	0 0 1	.

C. SET PARAMETERS: 1 SYN CHARACTER (32), 8 LEVEL CODE, REPEAT

PRESS	LOCATION	CONTENT
3 , 2		3 2
SYN		3 2
8		_ 8
BITS/CHAR	0 0 8	
REPEAT		. 3
MODE SELECT		0 3

D. START TEST: PRESS START BUTTON

1 THE B UNIT WILL AUTOMATICALLY START EACH TIME THE START BUTTON ON ON THE A UNIT IS ACTUATED.

VII INDICATIONS

THE TEST RESULTS OF THIS PROCEDURE ARE GATHERED ONLY AT THE 833 "A" SITE. TO CALCULATE THE SYNC FILLS IN THE OPPOSITE DIRECTION, JUST REVERSE THE PROCEDURE OF A & B MESSAGE SET-UP

DO NOT COUNT THE NORMAL SYNC CHARACTERS IN THE START OF THE MESSAGE AS SYNC FILLS REFER TO STORED MESSAGE LISTING #16

THE CONTENTS OF THE RCV BUFFER CAN BE EXAMINED BIT BY BIT, BY INCREMENTING OR DECREMENTING THE BUFFER ADDRESS WITH THE READ BUTTONS IF THERE ARE NO SYNC FILLS DURING THE RECEPTION OF MESSAGE# 16, THE ENTIRE MESSAGE WILL FILL THE RCV BUFFER IF THERE ARE SYNC FILLS, ONLY THE LAST 255 CHARACTERS RECEIVED WILL BE STORED.

BI-SYNC POLL, END TO END TEST

I. APPLICATION

TRANSMIT A 3 CHARACTER BI-SYNC MESSAGE TO A REMOTE 833. THE REMOTE 833 WILL RESPOND WITH A DIFFERENT 3 CHARACTER MESSAGE. THE POLLING WILL CONTINUE TILL THERE IS A SYNC FILL, CHARACTER ERROR, OR NO RESPONSE.

II. BLOCK DIAGRAM

III 833 SWITCH SETTINGS A & B

SET	POSITION	COMMENTS
BAUD	DCE	
MODE	SYNC	FULL DUPLEX
CLOCK	NORMAL	
PARITY	OFF	
DISPLAY	DTE	
MEMORY CONTROL	CENTER	
BREAK-OUT PANEL	CLOSED	JUMPER PIN 2 TO PROBE, PIN 3 TO MARKER

IV. PRODUCT SPECIAL INSTRUCTION

NO SPECIAL PROGRAMMING OF THE 6000's IS REQUIRED.

V. 833 MESSAGE PROGRAM SET-UP "A" ONLY

A LOAD SEND BUFFER WITH CHARACTERS FF, FF, FF, FF, 32, 32, 32, 32, 02, C1, C1, C1, 03.

PRESS	LOCATION	CONTENT
STOP	833	
SEND	___	_A
BUFFER SELECT	___	0A
CLEAR	000	
F, F		FF
ENTER	004	
3, 2		32
ENTER	008	

0 . 2			0 2
ENTER		0 0 9	
C . 1			C 1
ENTER		0 1 2	. .
0 3			0 3
ENTER		0 1 3	. .

B. LOAD DTE TRIGGER BUFFER WITH CHARACTERS: C2, C2, C2.

PRESS	LOCATION	CONTENT
DTE TRG		_ 7
BUFFER SELECT		0 A
CLEAR	0 0 0	
C . 2		C 2
ENTER	0 0 2	C 2

C. SET PARAMETERS: 1 SYN CHARACTER (32), 8 LEVEL CODE, REPEAT

PRESS	LOCATION	CONTENT
3 . 2		3 2
SYN		3 2
8		_ 8
BITS/CHAR	0 0 8	
REPEAT		_ 3
MODE SELECTED		0 3

D. START TEST: PRESS START BUTTON

VI. 833 MESSAGE PROGRAM SET-UP "B" ONLY

A. LOAD SEND BUFFER WITH CHARACTERS: FF, FF, FF, FF, 32, 32, 32, 32, 02, C2, C2, C2, 03.

PRESS	LOCATION	CONTENT
STOP	833	
SEND	---	_A
BUFFER SELECT	---	0A
CLEAR	000	..
F, F		FF
ENTER	004	..
3, 2		32
ENTER	008	..
0, 2		02
ENTER	009	
C, 2		C2
ENTER	012	..
0, 3		03
ENTER	013	

B. LOAD DTE TRIGGER BUFFER WITH CHARACTERS: C1, C1, C1.

PRESS	LOCATION	CONTENT
DTE TRG		_7
BUFFER SELECT		0A
CLEAR	000	..
C 1		C1
ENTER	002	C1

C. SET PARAMETERS: 1 SYN CHARACTER (32), 8 LEVEL CODE, REPEAT

PRESS	LOCATION	CONTENT
3 , 2		3 2
SYN		3 2
8		_ 8
BITS/CHAR	0 0 8	
REPEAT		_ 3
MODE SELECT		0 3

D. START TEST: PRESS START BUTTON

VII. INDICATIONS

1. PROBE, MARKER, DCE AND DTE SOURCE WILL BE FLASHING AT THE POLLING RATE. POLLING SHOULD COMMENCE ONCE BOTH A & B UNITS HAVE BEEN STARTED.

2 POLLING WILL STOP IF THERE ARE ANY SYNC FILLS, ONE OR MORE BIT ERRORS IN THE MESSAGE OR NO RESPONSE.

3 BY CHANGING THE TRIGGER BUFFER TO 1 CHARACTER TRAP AT ONE END AND A 3 CHARACTER TRAP AT THE OTHER END, IT CAN BE DETERMINED WHICH DIRECTION IS DOING THE SYNC INSERTION

4 IF THE POLLING STOPS, EXAMINE THE RCV BUFFER ON BOTH A & B UNITS RESPECTIVELY TO DETERMINE THE FAILURE. LOCATION 255 SHOW THE LAST CHARACTER THAT THE 833 TRANSMITTED OR RECEIVED

SECTION 2

STORED MESSAGE LISTINGS

STORED MESSAGE LISTINGS

I. TABLE OF 833 STORED MESSAGES

BUFFER NO.	DESCRIPTION	FORMAT
00	ASCII, FOX MESSAGE	ASYNC
02	ASCII, UPPER CASE	ASYNC
05	ASCII, FULL CASE	ASYNC
08	ASCII, 132 CHARACTERS	ASYNC
0B	EBCDIC, FOX MESSAGE	ASYNC
0D	EBCDIC, UPPER CASE	ASYNC
0E	EBCDIC, FULL CASE	ASYNC
10	EBCDIC, FOX MESSAGE	BI-SYNC
11	ASCII, FOX MESSAGE	BI-SYNC
12	EBCDIC, UPPER CASE	BI-SYNC
13	ASCII, UPPER CASE	BI-SYNC
14	EBCDIC, CHARACTER SET	BI-SYNC
15	ASCII, CHARACTER SET	BI-SYNC
16	EBCDIC, 243 CHARACTERS	BI-SYNC
17	EBCDIC, 4 CHARACTERS	BI-SYNC
18	EBCDIC, 4 CHARACTERS	BI-SYNC
19	EBCDIC, TRANSPARENT TEST	BI-SYNC
1A	ASCII, TERMINAL TEST	ASYNC
1B	BAUDOT, CHARACTER SET	ASYNC
1C	BAUDOT, FOX MESSAGE	ASYNC
1D	SELECTRIC, FOX MESSAGE	ASYNC
1E	EBCD, FOX MESSAGE	ASYNC

STORED MESSAGE BUFFER 00

I DESCRIPTION

BUFFER ZERO CONTAINS THE QUICK BROWN FOX MESSAGE CODED IN 7-BIT ASCII CODE.

II OBJECTIVE

THIS MESSAGE IS DESIGNED FOR USE ON ASYNCHRONOUS COMMUNICATION CHANNELS.

III MESSAGE LISTING

DATA FLOW

TEXT	T	H	E	SP	Q	U	I	C	K	SP	B	R	O	W	N	SP
CODE	54	48	45	20	51	55	49	43	4B	20	42	52	4F	57	4E	20
TEXT	F	O	X	SP	J	U	M	P	E	D	SP	O	V	E	R	SP
CODE	46	4F	48	20	4A	55	4D	50	45	44	20	4F	56	45	52	20
TEXT	T	H	E	SP	L	A	Z	Y	SP	D	O	G	'	S	SP	B
CODE	54	48	45	20	4C	41	5A	59	20	44	4F	47	27	53	20	42
TEXT	A	C	K	.	SP	0	1	2	3	4	5	6	7	8	9	CR
CODE	41	43	4B	2E	20	30	31	32	33	34	35	36	37	38	39	0D

TEXT LF
CODE 0A : END OF MESSAGE

IV CRC, LRC VALUES

CRC = A7A0

LRC = 4A

THE CRC LRC VALUES ARE CALCULATED FROM THE FIRST CHARACTER TO THE LAST CHARACTER IN THE MESSAGE.

STORED MESSAGE BUFFER 02

I DESCRIPTION

BUFFER TWO CONTAINS THE UPPER CHARACTERS OF THE ASCII CODE SET. (7-BIT ASCII CODE)

II OBJECTIVE

THIS MESSAGE IS DESIGNED FOR USE ON ASYNCHRONOUS COMMUNICATION CHANNELS.

III. MESSAGE LISTING

DATA FLOW

TEXT	!	"	#	$	%	&	'	(	)	*	+	,	-	.	/	0
CODE	21	22	23	24	25	26	27	28	29	2A	2B	2C	2D	2E	2F	30
TEXT	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	@
CODE	31	32	33	34	35	36	37	38	39	3A	3B	3C	3D	3E	3F	40
TEXT	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
CODE	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F	50
TEXT	Q	R	S	T	U	V	W	X	Y	Z	[	/	]	^	_	CR
CODE	51	52	53	54	55	56	57	58	59	5A	5B	5C	5D	5E	5F	OD

TEXT LF
CODE 0A : END OF MESSAGE

IV CRC, LRC VALUES

CRC = .B80C

LRC = 27

THE CRC, LRC VALUES ARE CALCULATED FROM THE FIRST CHARACTER TO THE LAST CHARACTER IN THE MESSAGE.

STORED MESSAGE BUFFER 05

I DESCRIPTION

BUFFER FIVE CONTAINS THE FULL CHARACTER SET OF THE 7-BIT ASCII CODE SET.

II OBJECTIVE

THIS MESSAGE IS DESIGNED FOR USE ON ASYNCHRONOUS COMMUNICATION CHANNELS.

III MESSAGE LISTING

DATA FLOW

TEXT	SP	!	"	#	$	%	&	'	(	)	*	+	,	-	.	/
CODE	20	21	22	23	24	25	26	27	28	29	2A	2B	2C	2D	2E	2F
TEXT	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
CODE	30	31	32	33	34	35	36	37	38	39	3A	3B	3C	3D	3E	3F
TEXT	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CODE	40	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F
TEXT	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
CODE	50	51	52	53	54	55	56	57	58	59	5A	5B	5C	5D	5E	5F
TEXT	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
CODE	60	61	62	63	64	65	66	67	68	69	6A	6B	6C	6D	6E	6F
TEXT	p	q	r	s	t	u	v	w	x	y	z	{	:	}	~	DEL
CODE	70	71	72	73	74	75	76	77	78	79	7A	7B	7C	7D	7E	7F

TEXT	CR	LF	
CODE	0D	0A	: END OF MESSAGE

IV CRC, LRC VALUES

CRC = .4892

LRC = 07

THE CRC, LRC VALUES ARE CALCULATED FROM THE FIRST CHARACTER TO THE LAST CHARACTER IN THE MESSAGE

STORED MESSAGE BUFFER 08

I. DESCRIPTION

BUFFER EIGHT CONTAINS A 132 CHARACTER MESSAGE CODED IN 7-BIT ASCII CODE.

II OBJECTIVE

THIS MESSAGE IS DESIGNED FOR USE ON ASYNCHRONOUS COMMUNICATION CHANNELS.

III MESSAGE LISTING

DATA FLOW

TEXT	!	"	#	$	%	&	'	(	)	*	+	,	-	.	/	0
CODE	21	22	23	24	25	26	27	28	29	2A	2B	2C	2D	2E	2F	30
TEXT	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	@
CODE	31	32	33	34	35	36	37	38	39	3A	3B	3C	3D	3E	3F	40
TEXT	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
CODE	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F	50
TEXT	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	`
CODE	51	52	53	54	55	56	57	58	59	5A	5B	5C	5D	5E	5F	21
TEXT	'	#	$	%	&	'	(	)	*	+	,	-	.	/	0	1
CODE	22	23	24	25	26	27	28	29	2A	2B	2C	2D	2E	2F	30	31
TEXT	2	3	4	5	6	7	8	9	:	;	<	=	>	?	@	A
CODE	32	33	34	35	36	37	38	39	3A	3B	3C	3D	3E	3F	40	41
TEXT	B	C	D	E	F	G	H	I	J	K	L	N	N	O	P	Q
CODE	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F	50	51
TEXT	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_	!	"
CODE	52	53	54	55	56	57	58	59	5A	5B	5C	5D	5E	5F	21	22
TEXT	#	$	%	&	CR	LF										
CODE	23	24	25	26	OD	OA	:	END OF MESSAGE								

IV CRC, LRC VALUES

CRC = .864A

LRC = 00

THE CRC LRC VALUES ARE CALCULATED FROM THE FIRST CHARACTER TO THE LAST CHARACTER IN THE MESSAGE.

STORED MESSAGE BUFFER 0B

I DESCRIPTION

BUFFER 0B CONTAINS THE QUICK BROWN FOX MESSAGE CODED IN 8-BIT EBCDIC CODE.

II. OBJECTIVE

THIS MESSAGE IS DESIGNED FOR USE ON ASYNCHRONOUS COMMUNICATION CHANNELS.

III MESSAGE LISTING

DATA FLOW

TEXT	T	H	E	SP	Q	U	I	C	K	SP	B	R	O	W	N	SP
CODE	E3	C8	C5	40	D8	E4	C9	C3	D2	40	C2	D9	D6	E6	D5	40
TEXT	F	O	X	SP	J	U	M	P	E	D	SP	O	V	E	R	SP
CODE	C6	D6	E7	40	D1	E4	D4	D7	C5	C4	40	D6	E5	C5	D9	40
TEXT	T	H	E	SP	L	A	Z	Y	SP	D	O	G	'	S	SP	B
CODE	E3	C8	C5	40	D3	C1	E9	E8	40	C4	D6	C7	7D	E2	40	C2
TEXT	A	C	K	.	SP	0	1	2	3	4	5	6	7	8	9	CR
CODE	C1	C3	D2	4B	40	F0	F1	F2	F3	F4	F5	F6	F7	F8	F9	CR

TEXT LF
CODE 25 : END OF MESSAGE

IV CRC, LRC VALUES

CRC = .6B9C

LRC = DC

THE CRC LRC VALUES ARE CALCULATED FROM THE FIRST CHARACTER TO THE LAST CHARACTER IN THE MESSAGE

STORED MESSAGE BUFFER 0D

I. DESCRIPTION

BUFFER D CONTAINS THE UPPER CASE CHARACTERS OF THE 8-BIT EBCDIC CODE SET.

II. OBJECTIVE

THIS MESSAGE IS DESIGNED FOR USE ON ASYNCHRONOUS COMMUNICATION CHANNELS.

III. MESSAGE LISTING

DATA FLOW

TEXT	SP	4A	.	<	(	+	4F	&	!	$	*	)	;	^	-	/
CODE	40	4A	4B	4C	4D	4E	4F	50	5A	5B	5C	5D	5E	5F	60	61
TEXT	,	%	_	>	?	:	#	@	'	=	"	A	B	C	D	E
CODE	6B	6C	6D	6E	6F	7A	7B	7C	7D	7E	7F	C1	C2	C3	C4	C5
TEXT	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
CODE	C6	C7	C8	C9	D1	D2	D3	D4	D5	D6	D7	D8	D9	E2	E3	E4
TEXT	V	W	X	Y	Z	0	1	2	3	4	5	6	7	8	CR	LF
CODE	E5	E6	E7	E8	E9	F0	F1	F2	F3	F4	F5	F6	F7	F8	OD	25

END OF MESSAGE

IV. CRC, LRC VALUES

CRC = .84B1

LRC - BB

THE CRC, LRC VALUES ARE CALCULATED FROM THE FIRST CHARACTER TO THE LAST CHARACTER IN THE MESSAGE.

STORED MESSAGE BUFFER 0E

I DESCRIPTION

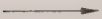
BUFFER E CONTAINS THE FULL CHARACTER SET OF THE 8-BIT EBCDIC CODE SET.

II OBJECTIVE

THIS MESSAGE IS DESIGNED FOR USE ON ASYNCHRONOUS COMMUNICATION CHANNELS.

II MESSAGE LISTING

DATA FLOW



TEXT	SP	4A	.	<	(	+	4F	&	!	$	*	)	;	^	—	/
CODE	40	4A	4B	4C	4D	4E	4F	50	5A	5B	5C	5D	5E	5F	60	61
TEXT	,	%	_	>	?	.	#	@	'	=	"	a	b	c	d	e
CODE	6B	6C	6D	6E	6F	7A	7B	7C	7D	7E	7F	81	82	83	84	85
TEXT	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u
CODE	86	87	88	89	91	92	93	94	95	96	97	98	99	A2	A3	A4
TEXT	v	w	x	y	z	A	B	C	D	E	F	G	H	I	J	K
CODE	A5	A6	A7	A8	A9	C1	C2	C3	C4	C5	C6	C7	C8	C9	D1	D2
TEXT	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	0
CODE	D3	D4	D5	D6	D7	D8	D9	E2	E3	E4	E5	E6	E7	E8	E9	F0
TEXT	1	2	3	4	5	6	7	8	CR	LF						
CODE	F1	F2	F3	F4	F5	F6	F7	F8	0D	24	:	END OF MESSAGE				

IV CRC, LRC VALUES

CRC = .5C9D

LRC = AB

THE CRC LRC VALUES ARE CALCULATED FROM THE FIRST CHARACTER TO THE LAST CHARACTER IN THE MESSAGE

STORED MESSAGE BUFFER 10

I DESCRIPTION

BUFFER TEN CONTAINS THE QUICK BROWN FOX MESSAGE CODED IN 8-BIT EBCDIC CODE.

II OBJECTIVE

THIS MESSAGE IS PROGRAMMED IN A BI-SYNC FORMAT AND IS DESIGNED FOR USE ON SYNCHRONOUS COMMUNICATION CHANNELS.

III MESSAGE LISTING

DATA FLOW

TEXT	:PAD CHARACTERS				:	SY	SY	SY	SY	SH	1	0	SX	T	H	E
CODE	FF	FF	FF	FF	FF	32	32	32	32	01	F1	F0	F2	E3	C8	C5
TEXT	SP	Q	U	I	C	K	SP	B	R	O	W	N	SP	F	O	X
CODE	40	D8	E4	C9	C3	D2	40	C2	D9	D6	E6	D5	50	C6	D6	E7
TEXT	SP	J	U	M	P	E	D	SP	O	V	E	R	SP	T	H	E
CODE	40	D1	E4	D4	D7	C5	C4	40	D6	E5	C5	D9	40	E3	C8	C5
TEXT	SP	L	A	Z	Y	SP	D	O	G		S	SP	B	A	C	K
CODE	40	D3	C1	E9	E8	40	C4	D6	C7	7D	E2	40	C2	C1	C3	D2
TEXT	.	SP	0	1	2	3	4	5	6	7	8	9	CR	LF	EX	C
CODE	4B	40	F0	F1	F2	F3	F4	F5	F6	F7	F8	F9	OD	25	03	E2

TEXT RC: :LRC : END OF MESSAGE
CODE F3 DD

IV CRC, LRC VALUES

THE CRC, LRC ARE INCLUDED IN THE MESSAGE AFTER THE ETX

CRC = .E2F3

LRC = DD

THE CRC & LRC ARE CALCULATED FROM SOH. TO ETX

STORED MESSAGE BUFFER 11

I DESCRIPTION

BUFFER ELEVEN CONTAINS THE QUICK BROWN FOX MESSAGE CODED IN 7-BIT ASCII CODE.

II OBJECTIVE

THIS MESSAGE IS PROGRAMMED IN A BI-SYNC FORMAT AND IS DESIGNED FOR USE ON SYNCHRONOUS COMMUNICATION CHANNELS

III MESSAGE LISTING

DATA FLOW

TEXT	:PAD CHARACTERS				:	SY	SY	SY	SY	SH	1	1	SX	T	H	E
CODE	FF	FF	FF	FF	FF	16	16	16	16	01	31	31	02	54	48	45
TEXT	SP	Q	U	I	C	K	SP	B	R	O	W	N	SP	F	O	X
CODE	20	51	55	49	43	4B	20	42	52	4F	57	4E	20	46	4F	58
TEXT	SP	J	U	M	P	E	D	SP	O	V	E	R	SP	T	H	E
CODE	20	4A	55	4D	50	45	44	20	4F	56	45	52	20	54	48	45
TEXT	SP	L	A	Z	Y	SP	D	O	G	'	S	SP	B	A	C	K
CODE	20	4C	41	5A	59	20	44	4F	4D	27	53	20	42	41	42	4B
TEXT		SP	0	1	2	3	4	5	6	7	8	9	CR	LF	EX	:C
CODE	2E	20	30	31	32	33	34	35	36	37	38	39	OD	OA	03	BD

TEXT	RC:	:LRC :	END OF MESSAGE	
CODE	7C	4A		

IV CRC, LRC VALUES

THE CRC, LRC ARE INCLUDED IN THE MESSAGE AFTER THE ETX

CRC = BD7C

LRC = 4A

THE CRC, LRC VALUES ARE CALCULATED FROM SOH-TO-ETX

STORED MESSAGE BUFFER 12

I DESCRIPTION

BUFFER TWELVE CONTAINS THE UPPER CASE CHARACTERS OF THE 8-BIT EBCDIC CODE.

II. OBJECTIVE

THIS MESSAGE IS PROGRAMMED IN A BI-SYNC FORMAT AND IS DESIGNED FOR USE ON SYNCHRONOUS COMMUNICATION CHANNELS.

III. MESSAGE LISTING

III. DATA FLOW

TEXT	PAD CHARACTERS					SY	SY	SY	SY	SH	1	2	SX	SP	4A	.
CODE	FF	FF	FF	FF	FF	32	32	32	32	01	F1	F2	02	40	4A	4B
TEXT	<	(	+	4F	&	!	$	*	)	;	^		/	,	%	_
CODE	4C	4D	4E	5F	50	5A	5B	5C	5D	5E	5F	60	61	6B	6C	6D
TEXT	>	?	:	#	@	'	=	"	A	B	C	D	E	F	G	H
CODE	6E	6F	7A	7B	7C	7D	7E	7F	C1	C2	C3	C4	C5	C6	C7	C8
TEXT	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
CODE	C9	D1	D2	D3	D4	D5	D6	D7	D8	D9	E2	E3	E4	E5	E6	E7
TEXT	Y	Z	0	1	2	3	4	5	6	7	8	CR	LF	EX	:C	RC
CODE	E8	E9	F0	F1	F2	F3	F4	F5	F6	F7	F8	0D	25	03	F5	65

TEXT :LRC : END OF MESSAGE
CODE B8

IV CRC, LRC VALUES

THE CRC, LRC ARE INCLUDED IN THE MESSAGE AFTER THE ETX

CRC F565

LRC B8

THE CRC, LRC VALUES ARE CALCULATED FROM SOH-TO-ETX

STORED MESSAGE BUFFER 13

I DESCRIPTION

BUFFER THIRTEEN CONTAINS THE UPPER CASE CHARACTERS OF THE 7-BIT ASCII CODE

II OBJECTIVE

THIS MESSAGE IS PROGRAMMED IN A BI-SYNC FORMAT AND IS DESIGNED FOR USE ON SYNCHRONOUS COMMUNICATION CHANNELS.

III MESSAGE LISTING

DATA FLOW

TEXT	:PAD	CHARACTERS			:	SY	SY	SY	SY	SH	1	3	SX	!	"	#
CODE	FF	FF	FF	FF	FF	16	16	16	16	01	31	33	02	21	22	23
TEXT	$	%	&	'	(	)	*	+	,	-	.	/	0	1	2	3
CODE	24	25	26	27	28	29	2A	2B	2C	2D	2E	2F	30	31	32	33
TEXT	4	5	6	7	8	9	:	;	<	=	>	?	@	A	B	C
CODE	34	35	36	37	38	39	3A	3B	3C	3D	3E	3F	40	41	42	43
TEXT	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
CODE	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F	50	51	52	53
TEXT	T	U	V	W	X	Y	Z	[	/	]	^	_	CR	LF	EX	:C
CODE	54	55	56	57	58	59	5A	5B	5C	5D	5E	5F	0D	0A	03	29

TEXT	RC	:LRC :	END OF MESSAGE	
CODE	6A	25		

IV CRC, LRC VALUES

THE CRC LRC VALUES ARE INCLUDED IN THE MESSAGE AFTER THE ETX

CRC = 296A

LRC = 25

THE CRC LRC VALUES ARE CALCULATED FROM SOH TO EXT

STORED MESSAGE BUFFER 14

I DESCRIPTION

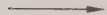
BUFFER FOURTEEN CONTAINS THE COMPLETE CHARACTER SET OF THE 8-BIT EBCDIC CODE.

II. OBJECTIVE

THIS MESSAGE IS PROGRAMMED IN A BI-SYNC FORMAT AND IS DESIGNED FOR USE ON SYNCHRONOUS COMMUNICATION CHANNELS.

III MESSAGE LISTING

DATA FLOW



TEXT	:PAD CHARACTERS					SY	SY	SY	SY	SH	1	4	SX	A	B	C
CODE	FF	FF	FF	FF	FF	32	32	32	32	01	F1	F4	02	C1	C2	C3
TEXT	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
CODE	C4	C5	C6	C7	C8	C9	D1	D2	D3	D4	D5	D6	D7	D8	D9	E2
TEXT	T	U	V	W	X	Y	Z	a	b	c	d	e	f	g	h	i
CODE	E3	E4	E5	E6	E7	E8	E9	81	82	83	84	85	86	87	88	89
TEXT	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
CODE	91	92	93	94	95	96	97	98	99	A2	A3	A4	A5	A6	A7	A8
TEXT	z	0	1	2	3	4	5	6	7	8	9	SP	!	"	#	$
CODE	A9	F0	F1	F2	F3	F4	F5	F6	F7	F8	F9	40	5A	7F	7B	5B
TEXT	%	&	'	(	)	*	+	,	-	.	/	EX	C	RC	.LRC	
CODE	6C	50	7D	4D	5D	5C	4E	6B	60	4B	61	03	52	78	23	

END OF MESSAGE

IV CRC, LRC VALUES

THE CRC, LRC VALUES ARE INCLUDED IN THE MESSAGE AFTER THE ETX

CRC = 5278

LRC = 23

THE CRC, LRC VALUES ARE CALCULATED FROM SOH-TO-ETX

STORED MESSAGE BUFFER 15

I. DESCRIPTION

BUFFER FIFTEEN CONTAINS THE COMPLETE CHARACTER SET OF THE 7-BIT ASCII CODE.

II OBJECTIVE

THIS MESSAGE IS PROGRAMMED IN A BI-SYNC FORMAT AND IS DESIGNED FOR USE ON SYNCHRONOUS COMMUNICATION CHANNELS.

III MESSAGE LISTING

DATA FLOW

TEXT	:PAD CHARACTERS :					SY	SY	SY	SY	SH	1	5	SX	A	B	C
CODE	FF	FF	FF	FF	FF	16	16	16	16	01	31	35	02	41	42	43
TEXT	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
CODE	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F	50	51	52	53
TEXT	T	U	V	W	X	Y	Z	a	b	c	d	e	f	g	h	i
CODE	54	55	56	57	58	59	5A	61	62	63	64	65	66	67	68	69
TEXT	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
CODE	6A	6B	6C	6D	6E	6F	70	71	72	73	74	75	76	77	78	79
TEXT	z	0	1	2	3	4	5	6	7	8	9	SP	!	"	#	$
CODE	7A	30	31	32	33	34	35	36	37	38	39	20	21	22	23	24
TEXT	%	&	'	(	)	*	+	,	-	.	/	EX	:C	RC:	END OF	
CODE	25	26	27	28	29	2A	2B	2C	2D	2E	2F	03	2C	70		

MESSAGE

IV CRC, LRC VALUES

THE CRC VALUE IS INCLUDED IN THE MESSAGE AFTER ETX

CRC = 2C70

LRC = 05

THE CRC LRC VALUE IS CALCULATED FROM SOH-TO-ETX

STORED MESSAGE BUFFER 16

I. DESCRIPTION

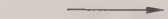
BUFFER SIXTEEN CONTAINS A 243 CHARACTER MESSAGE CODED IN 8-BIT EBCDIC.

II. OBJECTIVE

THIS MESSAGE IS PROGRAMMED IN A BI-SYNC FORMAT AND DESIGNED FOR USE ON SYNCHRONOUS COMMUNICATION CHANNELS.

III. MESSAGE LISTING

DATA FLOW



CODE	FF	FF	FF	FF	FF	32	32	32	32	02	00	01	02	04	05	06
CODE	07	08	09	0A	0B	0C	0D	0E	0F	10	11	12	13	14	15	16
CODE	17	18	19	1A	1B	1C	1D	1E	1F	20	21	22	23	24	25	28
CODE	29	2A	2B	2C	2E	2F	30	31	33	34	35	36	37	38	39	3A
CODE	3B	3C	3D	3E	3F	40	41	42	43	44	45	46	47	48	49	4A
CODE	4B	4C	4D	4E	4F	50	51	52	53	54	55	56	57	58	59	5A
CODE	5B	5C	5D	5E	5F	60	61	62	63	64	65	66	67	68	69	6A
CODE	6B	6C	6D	6E	6F	70	71	72	73	74	75	76	77	78	79	7A
CODE	7B	7C	7D	7E	7F	80	81	82	83	84	85	86	87	88	89	8A
CODE	8B	8C	8D	8E	8F	90	91	92	93	94	95	96	97	[illegible]	99	9A
CODE	9B	9C	9D	9E	9F	A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	AA
CODE	AB	AC	AD	AE	AF	B0	B1	B2	B3	B4	B5	B6	B7	B8	B9	BA
CODE	BB	BC	BD	BE	BF	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9	CA
CODE	CB	CC	CD	CE	CF	D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	DA
CODE	DB	DC	DD	DE	DF	E0	E1	E2	E3	E4	E5	E6	E7	E8	E9	EA
CODE	EB	EC	ED	EE	EF	F0	F1	F2	F3	F4	F5	F6	F7	F8	F9	FA

CODE F6 F7 03 END OF MESSAGE

IV CRC, LRC VALUES

CRC = 6287 LRC 1C

THE CRC, LRC VALUES ARE CALCULATED FROM STX-TO-EXT

STORED MESSAGE BUFFER 17

I DESCRIPTION

BUFFER SEVENTEEN CONTAINS A 4 CHARACTER MESSAGE CODED IN 8-BIT EBCDIC.

II OBJECTIVE

THIS MESSAGE IS PROGRAMMED IN BI-SYNC FORMAT AND IS DESIGNED FOR USE ON SYNCHRONOUS COMMUNICATION CHANNELS.

III MESSAGE LISTING

DATA FLOW

TEXT	PAD CHARACTERS					SY	SY	SY	SY	SX	A	B	C	D	EX
CODE	FF	FF	FF	FF	FF	32	32	32	32	02	C1	C2	C3	C4	03

END OF MESSAGE

IV CRC, LRC VALUES

CRC = E376

LRC = 05

THE CRC LRC VALUES ARE CALCULATED FROM STX-TO-ETX

STORED MESSAGE BUFFER 18

I DESCRIPTION

BUFFER EIGHTEEN CONTAINS A 4 CHARACTER MESSAGE CODED IN 8-BIT EBCDIC.

II OBJECTIVE

THIS MESSAGE IS PROGRAMMED IN BI-SYNC FORMAT AND IS DESIGNED FOR USE ON SYNCHRONOUS COMMUNICATION CHANNELS.

III. MESSAGE LISTING

DATA FLOW

TEXT	:PAD CHARACTERS :					SY	SY	SY	SY	SX	E	F	G	H	EX
CODE	FF	FF	FF	FF	FF	32	32	32	32	02	C5	C6	C7	C8	03

. END OF MESSAGE

IV CRC, LRC VALUES

CRC = 5747

LRC OD

THE CRC, LRC VALUES ARE CALCULATED FROM STX-TO-ETX

STORED MESSAGE BUFFER 19

I DESCRIPTION

BUFFER NINETEEN CONTAINS A TRANSPARENT MODE TEST CODED IN 8-BIT EBCDIC.

II OBJECTIVE

THIS MESSAGE IS PROGRAMMED IN A BI-SYNC FORMAT AND IS INTENDED FOR USE ON 6000 SYNCHRONOUS CHANNELS.

III MESSAGE LISTING

DATA FLOW

TEXT	PAD CHARACTERS					SY	SY	SY	SY	DL	SX	EB	EC	EQ	ET	A	
CODE	FF	FF	FF	FF	FF	32	32	32	32	10	02	26	27	2D	37	C1	
TEXT	B	C	D	E	F	G	H	I	CA	FF	DL	EX	: END OF MESSAGE				
CODE	C2	C3	C4	C5	C6	C7	C8	C9	CA	FF	10	03					

IV CRC, LRC

CRC = 8A2A

LRC = EE

THE CRC LRC VALUES ARE CALCULATED FROM STX-TO-EXT

STORED MESSAGE BUFFER 1A

I DESCRIPTION

BUFFER 1A CONTAINS A 255 CHARACTER MESSAGE CODED IN 7-BIT ASCII.

II OBJECTIVE

THIS MESSAGE IS DESIGNED FOR ASYNCHRONOUS TERMINAL TESTING.

III. MESSAGE LISTING

DATA FLOW

→

TEXT	CR	LF	SP	C	O	D	E	X	SP	T	E	S	T	CR	LF	SP
CODE	0A	0D	20	43	4F	44	45	58	20	54	45	53	54	0A	0D	20
TEXT	SP	SP	SP	X	X	X	X	X	X	X	X	X	X	X	X	X
CODE	20	20	20	58	58	58	58	58	58	58	58	58	58	58	58	58
TEXT	X	X	X	CR	LF	SP	SP	SP	SP	X	X	SP	SP	SP	SP	X
CODE	58	58	58	0A	0D	20	20	20	20	58	58	20	20	20	20	58
TEXT	X	X	SP	X	X	X	X	SP	X	CR	LF	SP	SP	SP	SP	X
CODE	58	58	20	58	58	58	58	20	58	0A	0D	20	20	20	20	58
TEXT	SP	X	X	X	X	SP	X	X	SP	X	X	X	SP	X	X	CR
CODE	20	58	58	58	58	20	58	58	20	58	58	58	20	58	58	0A
TEXT	LF	SP	SP	SP	SP	X	SP	X	X	X	X	SP	X	X	SP	X
CODE	0D	20	20	20	20	58	20	58	58	58	58	20	58	58	20	58
TEXT	X	SP	X	X	X	CR	LF	SP	SP	SP	SP	X	SP	X	X	X
CODE	58	20	58	58	58	0A	0D	20	20	20	20	58	20	58	58	58
TEXT	X	SP	X	X	SP	X	SP	X	X	X	X	CR	LF	SP	SP	SP
CODE	58	20	58	58	20	58	20	58	58	58	58	0A	0D	20	20	20
TEXT	SP	X	SP	X	X	X	X	SP	X	X	SP	SP	X	X	X	X
CODE	20	58	20	58	58	58	58	20	58	58	20	20	58	58	58	58
TEXT	X	CR	LF	SP	SP	SP	SP	X	SP	X	X	X	X	SP	X	X
CODE	58	0A	0D	20	20	20	20	58	20	58	58	58	58	20	58	58
TEXT	SP	X	SP	X	X	X	X	CR	LF	SP	SP	SP	SP	X	SP	X
CODE	20	58	20	58	58	58	58	0A	0D	20	20	20	20	58	20	58
TEXT	X	X	X	SP	X	X	SP	X	X	SP	X	X	X	CR	LF	SP
CODE	58	58	58	20	58	58	20	58	58	20	58	58	58	0A	0D	20
TEXT	SP	SP	SP	X	SP	X	X	X	X	SP	X	X	SP	X	X	X
CODE	20	20	20	58	20	58	58	58	58	20	58	58	20	58	58	58

TEXT	SP	X	X	CR	LF	SP	SP	SP	SP	X	X	SP	SP	SP	SP	X
CODE	20	58	58	0A	0D	20	20	20	20	58	58	20	20	20	20	58
TEXT	X	X	SP	X	X	X	X	SP	X	CR	LF	SP	SP	SP	SP	X
CODE	58	58	20	58	58	58	58	20	58	0A	0D	20	20	20	20	58
TEXT	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
CODE	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	

END OF MESSAGE

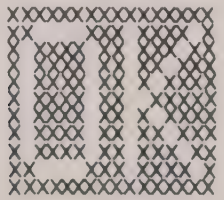
IV CRC, LRC VALUES

CRC = .124A

LRC = 43

THE CRC, LRC VALUES ARE CALCULATED FROM THE FIRST CHARACTER TO THE LAST

CODEX TEST



STORED MESSAGE BUFFER 1B

I. DESCRIPTION

BUFFER 1B CONTAINS THE CHARACTER SET OF THE 5-BIT BAUDOT CODE.

II. OBJECTIVE

THIS MESSAGE IS DESIGNED FOR ASYNCHRONOUS COMMUNICATION CHANNELS.

III MESSAGE LISTING

DATA FLOW

TEXT	LTR	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
CODE	1F	03	19	0E	09	01	0D	1A	14	06	0B	0F	12	1C	0C	18
TEXT	P	Q	R	S	T	U	V	W	X	Y	Z	FIG	-	?	.	$
CODE	16	17	0A	05	10	07	1E	13	1D	15	11	1B	03	19	0E	09
TEXT	3	F	&	#	8	BL	(	)	.	,	9	0	1	4	'	5
CODE	01	0D	1A	14	06	0B	0F	12	1C	0C	18	16	17	0A	05	10
TEXT	&	;	2	/	6											
CODE	07	1E	13	1D	15											

END OF MESSAGE

IV. CRC, LRC VALUES

CRC = 6B35

LRC = 15

THE CRC, LRC VALUES ARE CALCULATED FROM THE FIRST CHARACTER TO THE LAST

STORED MESSAGE BUFFER 1C

I. DESCRIPTION

BUFFER 1C CONTAINS THE QUICK BROWN FOX MESSAGE CODED IN 5-BIT BAUDOT.

II OBJECTIVE

THIS MESSAGE IS DESIGNED FOR USE ON ASYNCHRONOUS COMMUNICATION CHANNELS.

III MESSAGE LISTING

DATA FLOW

TEXT	LTR	T	H	E	SP	Q	U	I	C	K	SP	B	R	O	W	N
CODE	1F	10	14	01	04	17	07	06	0E	0F	04	19	0A	18	13	0C
TEXT	SP	F	O	X	SP	J	U	M	P	E	D	SP	O	V	E	R
CODE	04	0D	18	1D	04	0B	07	1C	16	01	09	04	18	1E	01	0A
TEXT	SP	T	H	E	SP	L	A	Z	Y	SP	D	O	G	SP	S	SP
CODE	04	10	14	01	04	12	03	11	15	04	09	18	1A	04	05	04
TEXT	B	A	C	K	SP	FIG	0	1	2	3	4	5	6	7	8	9
CODE	19	03	0E	0F	04	1B	16	17	13	01	oA	10	15	07	06	18
TEXT	CR	LF														
CODE	08	02														

END OF MESSAGE

IV CRC, LRC VALUES

CRC = C667

LRC = 07

THE CRC, LRC VALUES ARE CALCULATED FROM THE FIRST CHARACTER TO THE LAST

STORED MESSAGE BUFFER 1D

I. DESCRIPTION

BUFFER 1D CONTAINS THE QUICK BROWN FOX MESSAGE CODED IN IBM SELECTRIC.

II. OBJECTIVE

THIS MESSAGE IS DESIGNED FOR ASYNCHRONOUS DATA TRANSFER TO IBM TERMINALS WHICH ARE CONFIGURED FOR SELECTRIC CODE.

III. MESSAGE LISTING

DATA FLOW

TEXT	CR	UC	T	H	E	SP	Q	U	I	C	K	SP	B	R	O	W
CODE	6D	1C	02	26	4A	40	5B	32	19	7A	1A	40	76	29	45	75
TEXT	N	SP	F	O	X	SP	J	U	M	P	S	SP	O	V	E	R
CODE	52	40	73	45	62	40	43	32	61	0B	25	40	45	31	4A	29
TEXT	SP	A	SP	L	A	Z	Y	SP	D	O	G	SP	LC	1	2	3
CODE	40	79	40	46	79	54	67	40	2A	45	23	40	1F	20	10	70
TEXT	4	5	6	7	8	9	0	sp	UC	T	E	S	T			
CODE	04	08	58	68	38	34	64	40	1C	02	4A	25	02			

IV CRC, LRC VALUES

CRC = F295

LRC = 0E

THE CRC, LRC VALUES ARE CALCULATED FROM THE FRIST CHARACTER TO THE LAST.

STORED MESSAGE BUFFER 1E

I. DESCRIPTION

BUFFER 1E CONTAINS THE QUICK BROWN FOX MESSAGE CODED IN EBCD (EXTENDED BINARY CODED DECIMAL).

II. OBJECTIVE

THIS MESSAGE IS DESIGNED FOR ASYNCHRONOUS DATA TRANSFER TO TERMINALS CONFIGURED FOR SUCH.

III. MESSAGE LISTING

DATA FLOW

TEST	NL	UC	T	H	E	SP	Q	U	I	C	K	SP	B	R	O	W
CODE	6D	1C	32	07	6B	40	45	4A	67	73	51	40	13	25	19	1A
TEXT	N	SP	F	O	X	SP	J	U	M	P	E	D	SP	O	V	E
CODE	29	40	5B	19	7A	40	61	4A	49	79	6B	0B	40	19	2A	6B
TEXT	R	SP	T	H	E	SP	L	A	Z	Y	SP	D	O	G	SP	LC
CODE	25	40	32	07	6B	40	31	23	26	46	40	0B	19	3B	40	1F
TEXT	1	2	3	4	5	6	7	8	9	0	UC	T	E	S	T	
CODE	20	10	30	08	68	58	38	04	64	54	1C	32	6B	52	32	

END OF MESSAGE

IV. CRC, LRC VALUES

CRC = 0F 9F

LRC = 0C

THE CRC LRC VALUES ARE CALCULATED FROM THE FIRST CHARACTER TO THE LAST

SECTION 3

UNIVERSAL CODE CHARTS

UNIVERSAL CODE CHART FOR DATA COMMUNICATIONS

8 BIT ASCII			8 BIT EBCDIC			6 BIT TRANSCODE			5 BIT TYPESETTER			1BCD			SELECTRIC			FIELD DATA			BAUDOT		
	BINARY	HEX		BINARY	HEX		BINARY	HEX		BINARY	HEX		BINARY	HEX		BINARY	HEX		BINARY	HEX		BINARY	HEX
A	1 000 001	41	A	11 000 001	C1	A	000 001	01	A	000 011	03	A	11 000 001	41	A	11 000 001	41	79	A	100 000	04	A	00 011	03
B	1 000 010	42	B	11 000 010	C2	B	000 010	02	H	011 001	19	B	11 000 010	42	B	11 000 010	42	76	B	100 001	05	B	00 011	23
C	1 000 011	43	C	11 000 011	C3	C	000 011	03	C	001 110	0E	C	11 000 011	43	C	11 000 011	43	77	C	100 010	06	C	00 011	0E
D	1 000 100	44	D	11 000 100	C4	D	000 100	04	O	011 101	1D	D	11 000 100	44	D	11 000 100	44	78	D	100 011	07	D	00 011	12
E	1 000 101	45	E	11 000 101	C5	E	000 101	05	E	000 001	01	E	11 000 101	45	E	11 000 101	45	7A	E	100 100	08	E	00 011	01
F	1 000 110	46	F	11 000 110	C6	F	000 110	06	T	001 101	0C	F	11 000 110	46	F	11 000 110	46	7B	F	100 101	09	F	00 011	0D
G	1 000 111	47	G	11 000 111	C7	G	000 111	07	A	011 011	1B	G	11 000 111	47	G	11 000 111	47	7C	G	100 110	0A	G	00 011	1A
H	1 001 000	48	H	11 001 000	C8	H	001 000	08	N	011 010	1A	H	11 001 000	48	H	11 001 000	48	7D	H	100 111	0B	H	00 011	05
I	1 001 001	49	I	11 001 001	C9	I	001 001	09	SP	010 100	14	I	11 001 001	49	I	11 001 001	49	7E	I	101 000	0C	I	00 011	0C
J	1 001 010	4A		11 001 010	7A	J	001 010	0A		000 110	06	J	11 010 001	51	J	11 010 001	51	7F	J	101 001	0D	J	00 011	16
K	1 001 011	4B	.	11 001 011	7B	K	001 011	0B		010 010	12	K	11 010 010	52	K	11 010 010	52	40	K	101 010	0E	K	00 011	1E
L	1 001 100	4C	<	11 001 100	7C	L	001 100	0C		010 011	13	L	11 010 011	53	L	11 010 011	53	41	L	101 011	0F	L	00 011	09
M	1 001 101	4D	(	11 001 101	7D	M	001 101	0D		011 100	1C	M	11 010 100	54	M	11 010 100	54	42	M	101 100	10	M	00 011	0B
N	1 001 110	4E	+	11 001 110	7E	N	001 110	0E		011 110	1E	N	11 010 101	55	N	11 010 101	55	43	N	101 101	11	N	00 011	1C
O	1 001 111	4F		11 001 111	7F	O	001 111	0F		011 111	1F	O	11 010 110	56	O	11 010 110	56	44	O	101 110	12	O	00 011	18
P	1 010 000	50	&	11 010 000	C0	P	010 000	10		010 000	10	P	11 010 111	57	P	11 010 111	57	45	P	101 111	13	P	00 011	1D
Q	1 010 001	51		11 010 001	D1	Q	010 001	11		010 111	17	Q	11 011 000	58	Q	11 011 000	58	46	Q	110 000	14	Q	00 011	17
R	1 010 010	52		11 010 010	D2	R	010 010	12		011 011	1B	R	11 011 001	59	R	11 011 001	59	47	R	110 001	15	R	00 011	0A
S	1 010 011	53	!	11 010 011	D3	S	010 011	13		010 101	15	S	11 011 010	5A	S	11 011 010	5A	48	S	110 010	16	S	00 011	14
T	1 010 100	54	$	11 010 100	D4	T	010 100	14		000 101	05	T	11 011 011	5B	T	11 011 011	5B	49	T	110 011	17	T	00 011	10
U	1 010 101	55	*	11 010 101	D5	U	010 101	15		001 111	0F	U	11 011 100	5C	U	11 011 100	5C	4A	U	110 100	18	U	00 011	07
V	1 010 110	56	)	11 010 110	D6	V	010 110	16		011 000	18	V	11 011 101	5D	V	11 011 101	5D	4B	V	110 101	19	V	00 011	0F
W	1 010 111	57	;	11 010 111	D7	W	010 111	17		011 001	19	W	11 011 110	5E	W	11 011 110	5E	4C	W	110 110	1A	W	00 011	19
X	1 011 000	58		11 011 000	D8	X	011 000	18		011 100	1C	X	11 011 111	5F	X	11 011 111	5F	4D	X	110 111	1B	X	00 011	1B
Y	1 011 001	59		11 011 001	D9	Y	011 001	19		011 010	1A	Y	11 100 000	60	Y	11 100 000	60	4E	Y	111 000	1C	Y	00 011	15
Z	1 011 010	5A		11 011 010	DA	Z	011 010	1A		011 011	1B	Z	11 100 001	61	Z	11 100 001	61	4F	Z	111 001	1D	Z	00 011	11
[	1 011 011	5B		11 011 011	DB							[	11 100 010	62	[	11 100 010	62	50	[	111 010	1E	[	00 011	1F
\	1 011 100	5C	*	11 011 100	DC							\	11 100 011	63	\	11 100 011	63	51	\	111 011	1F	\	00 011	0D
]	1 011 101	5D	%	11 011 101	DD							]	11 100 100	64	]	11 100 100	64	52	]	111 100	20	]	00 011	13
^	1 011 110	5E	_	11 011 110	DE							^	11 100 101	65	^	11 100 101	65	53	^	111 101	21	^	00 011	1E
_	1 011 111	5F	>	11 011 111	DF							_	11 100 110	66	_	11 100 110	66	54	_	111 110	22	_	00 011	0C
`	1 100 000	60		11 100 000	E0							`	11 100 111	67	`	11 100 111	67	55	`	111 111	23	`	00 011	16
a	1 100 001	61	/	11 100 001	E1							a	11 101 000	68	a	11 101 000	68	56	a	000 000	24	a	00 011	03
b	1 100 010	62		11 100 010	E2							b	11 101 001	69	b	11 101 001	69	57	b	000 001	25	b	00 011	23
c	1 100 011	63		11 100 011	E3							c	11 101 010	6A	c	11 101 010	6A	58	c	000 010	26	c	00 011	0E
d	1 100 100	64		11 100 100	E4							d	11 101 011	6B	d	11 101 011	6B	59	d	000 011	27	d	00 011	12
e	1 100 101	65		11 100 101	E5							e	11 101 100	6C	e	11 101 100	6C	5A	e	000 100	28	e	00 011	01
f	1 100 110	66		11 100 110	E6							f	11 101 101	6D	f	11 101 101	6D	5B	f	000 101	29	f	00 011	0D
g	1 100 111	67		11 100 111	E7							g	11 101 110	6E	g	11 101 110	6E	5C	g	000 110	2A	g	00 011	1A
h	1 101 000	68		11 101 000	E8							h	11 101 111	6F	h	11 101 111	6F	5D	h	000 111	2B	h	00 011	05
i	1 101 001	69		11 101 001	E9							i	11 110 000	70	i	11 110 000	70	5E	i	001 000	2C	i	00 011	0C
j	1 101 010	6A		11 101 010	EA							j	11 110 001	71	j	11 110 001	71	5F	j	001 001	2D	j	00 011	16
k	1 101 011	6B	,	11 101 011	EB							k	11 110 010	72	k	11 110 010	72	60	k	001 010	2E	k	00 011	1E
l	1 101 100	6C	%	11 101 100	EC							l	11 110 011	73	l	11 110 011	73	61	l	001 011	2F	l	00 011	09
m	1 101 101	6D	_	11 101 101	ED							m	11 110 100	74	m	11 110 100	74	62	m	001 100	30	m	00 011	0B
n	1 101 110	6E	>	11 101 110	EE							n	11 110 101	75	n	11 110 101	75	63	n	001 101	31	n	00 011	1C
o	1 101 111	6F	?	11 101 111	EF							o	11 110 110	76	o	11 110 110	76	64	o	001 110	32	o	00 011	18
p	1 110 000	70		11 110 000	F0	0	110 000	30	0	110 110	36	0	01 010 100	L	54	0	01 100 00	64	0	100 110	39	0	10 110	1
q	1 110 001	71		11 110 001	F1	1	110 001	31	1	111 101	3D	1	00 100 000	L	20	1	00 100 000	20	1	110 001	31	1	10 1	F
r	1 110 010	72		11 110 010	F2	2	110 010	32	2	110 011	33	2	00 010 000	L	10	2	00 010 000	10	2	10 010	32	2	10 01	2
s	1 110 011	73		11 110 011	F3	3	110 011	33	3	110 001	31	3	00 110 000	L	30	3	01 110 000	70	3	110 011	33	3	10 11	3
t	1 110 100	74		11 110 100	F4	4	110 100	34	4	101 010	2A	4	00 001 000	L	08	4	00 000 100	04	4	110 100	34	4	10 02	4
u	1 110 101	75		11 110 101	F5	5	110 101	35	5	110 000	30	5	01 001 000	L	48	5	01 101 000	68	5	110 101	35	5	10 04	5
v	1 110 110	76		11 110 110	F6	6	110 110	36	6	110 111	3F	6	01 011 000	L	58	6	01 111 000	78	6	110 110	36	6	10 15	6
w	1 110 111	77		11 110 111	F7	7	110 111	37	7	110 100	34	7	00 111 000	L	38	7	01 101 000	68	7	110 111	37	7	10 07	7
x	1 111 000	78		11 111 000	F8	8	111 000	38	8	111 100	3C	8	00 000 100	L	04	8	00 111 000	38	8	111 000	38	8	10 18	8
y	1 111 001	79		11 111 001	F9	9	111 001	39	9	111 000	38	9	00 000 100	L	04	9	00 111 000	38	9	111 001	39	9	10 09	9
z	1 111 010	7A		11 111 010	FA	:	111 010	3A	SP	000 100	04	SP	01 000 000	L	40	SP	01 010 000	50	SP	100 101	05	SP	00 00	04
{	1 111 011	7B		11 111 011	FB	;	111 011	3B		100 011	23		01 110 101	U	75		00 000 00	01		01 101 20			00	1C
|	1 111 100	7C		11 111 100	FC	<	111 100	3C					01 001 100	U	34		01 001 00	68					00	0B
}	1 111 101	7D		11 111 101	FD	=	111 101	3D					00 110 000	L	30		01 110 000	70		00 110 26			00	1A
~	1 111 110	7E		11 111 110	FE	>	111 110	3E					01 110 101	L	75	S	00 000 00	04	S			S	00	14
DEL	1 111 111	7F		11 111 111	FF	?	111 111	3F					01 101 000	U	68	%	00 101 000	28	%			%	00	0D
						@	000 000	00					01 110 110	L	76		00 110 000	30						
						A	000 001	01					01 110 001	L	71		00 000 001	01						
						B	000 010	02					01 110 010	L	72		00 000 010	02						
						C	000 011	03					01 110 011	L	73		00 000 011	03						
						D	000 100	04					01 110 100	L	74		00 000 100	04						
						E	000 101	05					01 110 101	L	75		00 000 101	05						
						F	000 110	06					01 110 110	L	76		00 000 110	06						
						G	000 111	07					01 110 111	L	77		00 000 111	07						
						H	001 000	08					01 111 000	L	78		00 001 000	08						
						I	001 001	09					01 111 001	L	79		00 001 001	09						
						J	001 010	0A					01 111 010	L	7A		00 001 010	0A						
						K	001 011	0B					01 111 011	L	7B		00 001 011	0B						
						L	001 100	0C					01 111 100	L	7C		00 001 100	0C						
						M	001 101	0D					01 111 101	L	7D		00 001 101	0D						
						N	001 110	0E					01 111 110	L	7E		00 001 110	0E						
						O	001 111	0F					01 111 111	L	7F		00 001 111	0F						
						P	010 000	10					10 000 000	U	40		00 010 000	10						
						Q	010 001	11					10 000 001	U	41		00 010 001	11						
						R	010 010	12					10 000 010	U	42		00 010 010	12						
						S	010 011	13					10 000 011	U	43		00 010 011	13						
						T	010 100	14					10 000 100	U	44		00 010 100	14						
						U	010 101	15					10 000 101	U	45		00 010 101	15						
						V	010 110	16					10 000 110	U	46		00 010 110	16						
						W	010 111	17					10 000 111	U	47		00 010 111	17						
						X	011 000	18					10 001 000	U	48		00 011 000	18						
						Y	011 001	19					10 001 001	U	49		00 011 001	19						
						Z	011 010	1A					10 001 010	U	4A		00 011 010	1A						
						[	011 011	1B					10 001 011	U	4B		00 011 011	1B						
						\	011 100	1C					10 001 100	U	4C		00 011 100	1C						
						]	011 101	1D					10 001 101	U	4D		00 011 101	1D						
						^	011 110	1E					10 001 110	U	4E		00 011 110	1E						
						_	011 111	1F					10 001 111	U	4F		00 011 111	1F						
						`	100 000	20					10 010 000	U	50		00 100 000	20						
						a	100 001	21					10 010 001	U	51		00 100 001	21						
						b	100 010	22					10 010 010	U	52		00 100 010	22						
						c	100 011	23					10 010 011	U	53		00 100 011	23						
						d	100 100	24					10 010 100	U	54		00 100 100	24						
						e	100 101	25					10 010 101	U	55		00 100 101	25						
						f	100 110	26					10 010 110	U	56		00 100 110	26						
						g	100 111	27					10 010 111	U	57		00 100 111	27						
						h	101 000	28					10 011 000	U	58		00 101 000	28						
						i	101 001	29					10 011 001	U	59		00 101 001	29						
						j	101 010	2A					10 011 010	U	5A		00 101 010	2A						
						k	101 011	2B					10 011 011	U	5B		00 101 011	2B						
						l	101 100	2C					10 011 100	U	5C		00 101 100	2C						
						m	101 101	2D					10 011 101	U	5D		00 101 101	2D						
						n	101 110	2E					10 011 110	U	5E		00 101 110	2E						
						o	101 111	2F					10 011 111	U	5F		00 101 111	2F						
						p	110 000	30					10 100 000	U	60		00 110 000	30						
						q	110 001	31					10 100 001	U	61		00 110 001	31						
						r	110 010	32					10 100 010	U	62		00 110 010	32						
						s	110 011	33					10 100 011	U	63		00 110 011	33						
						t	110 100	34					10 100 100	U	64		00 110 100	34						
						u	110 101	35					10 100 101	U	65		00 110 101	35						
						v	110 110	36					10 100 110	U	66		00 110 110	36						
						w	110 111	37					10 100 111	U	67		00 110 111	37						
						x	111 000	38					10 101 000	U	68		00 111 000	38						
						y	111 001	39					10 101 001	U	69		00 111 001	39						
						z	111 010	3A					10 101 010	U	6A		00 111 010	3A						
						{	111 011	3B					10 101 011	U	6B		00 111 011	3B						
						|	111 100	3C					10 101 100	U	6C		00 111 100	3C						
						}	111 101	3D					10 101 101	U	6D		00 111 101	3D						
						~	111 110	3E					10 101 110	U	6E		00 111 110	3E						
						DEL	111 111	3F					10 101 111	U	6F		00 111 111	3F						

APS - SHIFT
UPSHIFT
SHIFT 011 111 1F
SHIFT 011 011 1B

LAPS - UC
C - LC
UC 00 011 111 1F
UC 00 011 100 1C

LAPS - UC
C - LC
UC 00 011 111 1F
UC 00 011 100 1C

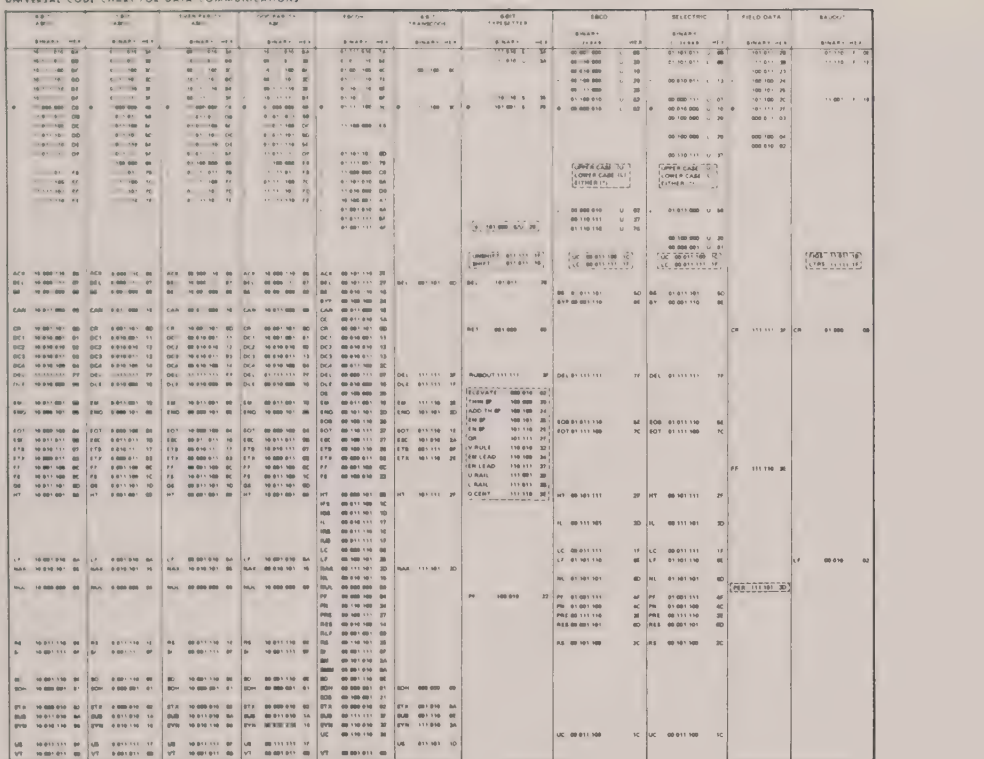
NO - LOWER CASE

NO - LOWER CASE

UPPER CASE (U)
LOWER CASE
EITHER (*)

UPPER CASE (U)
LOWER CASE
EITHER

NO - SHIFT FOR LETTERS
SHIFT FOR FIGURES 011 1B



EBCDIC HEX INPUT	ASCII HEX OUTPUT	SYMBOL	EBCDIC HEX INPUT	ASCII HEX OUTPUT	SYMBOL
00	00	NUL	30	–	–
01	01	SOH	31	–	–
02	02	STX	32	16	SYN
03	03	ETX	33	–	–
04	–	–	34	–	–
05	09	HT	35	–	–
06	–	–	36	–	–
07	7F	DEL	37	04	EOT
08	–	–	38	–	–
09	–	–	39	–	–
0A	–	–	3A	–	–
0B	0B	VT	3B	–	–
0C	0C	FF	3C	14	DC4
0D	0D	CR	3D	15	NAK
0E	0E	S0	3E	–	–
0F	0F	S1	3F	1A	SUB
10	10	DLE	40	20	SP
11	11	DC1	41	–	–
12	12	DC2	42	–	–
13	13	DC3	43	–	–
14	–	–	44	–	–
15	0D	NL	45	–	–
16	08	BS	46		–
17	–	–	47	–	–
18	18	CAN	48	–	–
19	19	EM	49	–	–
1A	–	–	4A		–
1B	–	–	4B	2E	
1C	1C	IFS	4C	3C	<
1D	1D	IGS	4D	28	(
1E	1E	IRS	4E	2B	+
1F	1F	IUS	4F	–	–
20	–	–	50	26	&
21	–	–	51	–	–
22	–	–	52		–
23	–	–	53	–	
24	–	–	54		–
25	0A	LF	55	–	–
26	17	ETB	56	–	–
27	1B	ESC	57	–	–
28	–	–	58	–	–
29		–	59	–	–
2A		–	5A	21	!
2B	–	–	5B	24	$
2C	–	–	5C	2A	*
2D	05	ENQ	5D	29	)
2E	06	ACK	5E	3B	;
2F	07	BEL	5F		–

EBCDIC HEX INPUT	ASCII HEX OUTPUT	SYMBOL	EBCDIC HEX INPUT	ASCII HEX OUTPUT	SYMBOL
60	2D	–	90	–	–
61	2F	/	91	6A	j
62	–	–	92	6B	k
63	–	–	93	6C	l
64	–	–	94	6D	m
65	–	–	95	6E	n
66	–	–	96	6F	o
67	–	–	97	70	p
68	–	–	98	71	q
69	–	–	99	72	r
6A	7C		9A	–	–
6B	2C	,	9B	–	–
6C	25	%	9C	–	–
6D	5F	_	9D	–	–
6E	3E	>	9E	–	–
6F	3F	?	9F	–	–
70	–	–	A0	–	–
71	–	–	A1	7E	~
72	–	–	A2	73	s
73	–	–	A3	74	t
74	–	–	A4	75	u
75	–	–	A5	76	v
76	–	–	A6	77	w
77	–	–	A7	78	x
78	–	–	A8	79	y
79	5C	\	A9	7A	z
7A	3A		AA	–	–
7B	23	#	AB	–	–
7C	40	@	AC	–	–
7D	27	'	AD	–	–
7E	3D	=	AE	–	–
7F	22	"	AF	–	–
80	–	–	B0	–	–
81	61	a	B1	–	–
82	62	b	B2	–	–
83	63	c	B3	–	–
84	64	d	B4	–	–
85	65	e	B5		–
86	66	f	B6		
87	67	g	B7	–	–
88	68	h	B8		–
89	69	i	B9		–
8A			BA	–	
8B			BB	–	–
8C			BC		
8D			BD	–	
8E			BE		
8F			BF	–	

EBCDIC HEX INPUT	ASCII HEX OUTPUT	SYMBOL	EBCDIC HEX INPUT	ASCII HEX OUTPUT	SYMBOL
C0	7B	{	E0	5C	\
C1	41	A	E1	–	–
C2	42	B	E2	53	S
C3	43	C	E3	54	T
C4	44	D	E4	55	U
C5	45	E	E5	56	V
C6	46	F	E6	57	W
C7	47	G	E7	58	X
C8	48	H	E8	59	Y
C9	49	I	E9	5A	Z
CA	–	–	EA	–	–
CB	–	–	EB	–	–
CC	–	–	EC	–	–
CD	–	–	ED	–	–
CE	–	–	EE	–	–
CF	–	–	EF	–	–
D0	7D	}	F0	30	0
D1	4A	J	F1	31	1
D2	4B	K	F2	32	2
D3	4C	L	F3	33	3
D4	4D	M	F4	34	4
D5	4E	N	F5	35	5
D6	4F	O	F6	36	6
D7	50	P	F7	37	7
D8	51	Q	F8	38	8
D9	52	R	F9	39	9
DA	–	–	FA	–	–
DB	–	–	FB	–	–
DC	–	–	FC	–	–
DD		–	FD	–	–
DE	–	–	FE	–	–
DF	–	–	FF	–	–

ASCII		EBCDIC		ASCII		EBCDIC	
HEX INPUT		HEX OUTPUT	SYMBOL	HEX INPUT		HEX OUTPUT	SYMBOL
00	80	00	NUL	30	B0	F0	0
01	81	01	SOH	31	B1	F1	1
02	82	02	STX	32	B2	F2	2
03	83	03	ETX	33	B3	F3	3
04	84	37	EOT	34	B4	F4	4
05	85	2D	ENQ	35	B5	F5	5
06	86	2E	ACK	36	B6	F6	6
07	87	2F	BEL	37	B7	F7	7
08	88	16	BS	38	B8	F8	8
09	89	05	HT	39	B9	F9	9
0A	8A	25	LF	3A	BA	7A	:
0B	8B	0B	VT	3B	BB	5E	;
0C	8C	0C	FF	3C	BC	4C	<
0D	8D	0D	CR	3D	BD	7E	=
0E	8E	0E	SO	3E	BE	6E	>
0F	8F	0F	SI	3F	BF	6F	?
10	90	10	DLE	40	C0	7C	@
11	91	11	DC1	41	C1	C1	A
12	92	12	DC2	42	C2	C2	B
13	93	13	DC3	43	C3	C3	C
14	94	3C	DC4	44	C4	C4	D
15	95	3D	NAK	45	C5	C5	E
16	96	32	SYN	46	C6	C6	F
17	97	26	ETB	47	C7	C7	G
18	98	18	CAN	48	C8	C8	H
19	99	19	EM	49	C9	C9	I
1A	9A	3F	SUB	4A	CA	D1	J
1B	9B	27	ESC	4B	CB	D2	K
1C	9C	1C	FS	4C	CC	D3	L
1D	9D	1D	GS	4D	CD	D4	M
1E	9E	1E	RS	4E	CE	D5	N
1F	9F	1F	US	4F	CF	D6	O
20	A0	40	SP	50	D0	D7	P
21	A1	5A	!	51	D1	D8	Q
22	A2	7F	"	52	D2	D9	R
23	A3	7B	#	53	D3	E2	S
24	A4	5B	$	54	D4	E3	T
25	A5	6C	%	55	D5	E4	U
26	A6	50	&	56	D6	E5	V
27	A7	7D	'	57	D7	E6	W
28	A8	4D	(	58	D8	E7	X
29	A9	5D	)	59	D9	E8	Y
2A	AA	5C	*	6A	DA	E9	Z
2B	AB	4E	+	5B	DB	-	-
2C	AC	6B	,	5C	DC	E0	\
2D	AD	60	-	5D	DD	-	-
2E	AE	4B	.	5E	DE	5F	¬
2F	AF	61	/	5F	DF	6D	_

ASCII		EBCDIC		ASCII		EBCDIC	
HEX INPUT		HEX OUTPUT	SYMBOL	HEX INPUT		HEX OUTPUT	SYMBOL
60	E0	—	—	70	F0	97	p
61	E1	81	a	71	F1	98	q
62	E2	82	b	72	F2	99	r
63	E3	83	c	73	F3	A2	s
64	E4	84	d	74	F4	A3	t
65	E5	85	e	75	F5	A4	u
66	E6	86	f	76	F6	A5	v
67	E7	87	g	77	F7	A6	w
68	E8	88	h	78	F8	A7	x
69	E9	89	i	79	F9	A8	y
6A	EA	91	j	7A	FA	A9	z
6B	EB	92	k	7B	FB	C0	{
6C	EC	93	l	7C	FC	6A	|
6D	ED	94	m	7D	FD	D0	}
6E	EE	95	n	7E	FE	A1	~
6F	EF	96	o	7F	FF	07	DEL

SECTION 4

833 SELF-TEST

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TABLE 4-3

Self-Test Routine Summary

Routine Number	How to Select	Type of Test	Normal Display	Error Display	Remarks
Power Up	Turn on Power	1 RAM March Test 2 RAM Bit Independence Check 3 ROM Check Sum Test	8 8 8 8 8 in LOCATION and CONTENT, all other LED's on, except PROBE	0 7 (RAM BIT), A (ROM's Swapped), B (Bus Buffer), or E F (ROM)	
0	f + MODE 0 + START	1 RAM WALK Test and RAM SOAK Test	1 0 in left digit of LOCATION for about one minute Countdown F 0 twice in far right digit of LOCATION at about one count per second (32 seconds total)	1 0 7 (RAM BIT) in right digit of CONTENT	1 Connect jumper between pins 2 and 3 on DCE side of Breakout Panel 2 Select SYNC and 9 6 K BAUD
		2 USART Check	2 Countup 00 FF twice in CONTENT	2. Count stops at 00 FF in CONTENT and a Right LOCATION decimal point off—USART A (U1332) probably bad, or b Decimal point in right LOCATION digit—USART B (U1325) probably bad, or c. 0. in left LOCATION digit—USART A (U1332) bad or no clock at USART A	
		3 Display Loop Check	3 Looping display sequence of: a 8 8 8 8 in LOCATION and CONTENT. All other LED's on, except PROBE b Left to right sequence of 0 in LOCATION and CONTENT, followed in turn by 1, 2, 4 and 8 c Buffer LED's light from bottom to top d Left to right sequence of a decimal point in LOCATION and CONTENT e Mode LED s light from top to bottom f Top row of LED's light from left to right starting at PARITY g Bottom row of LED's light from right to left ending at FRAME	3 Incorrect sequence, missing display characters, or LED's not lighting	

TABLE 4-3 (cont)

Routine Number	How to Select	Type of Test	Normal Display	Error Display	Remarks
1	F + MODE, 1 + START	Slide Switch Check	SWITCHES	009 in LOCATION.	Start check with all slide switches in UP position.

*SWITCH POSITIONS	MEM CONT	DISPLAY	PARITY	HDX/FDX	**ASYNC/SYNC	LOCATION DISPLAYS
UP	X	X	X	X	X	
MIDDLE						000
DOWN						
UP		X	X	X	X	
MIDDLE	X					001
DOWN						
UP		X	X	X	X	
MIDDLE						002
DOWN	X					
UP			X	X	X	
MIDDLE		X				003
DOWN	X					
UP			X	X	X	
MIDDLE						004
DOWN	X	X				
UP				X	X	
MIDDLE			X			005
DOWN	X	X				
UP				X	X	
MIDDLE						006
DOWN	X	X	X			
UP					X	
MIDDLE						007
DOWN	X	X	X	X		
UP						
MIDDLE						008
DOWN	X	X	X	X	X	
SWITCH MALFUNCTION, OR ANY SWITCH POSITION COMBINATIONS NOT SHOWN ABOVE						009

*DOES NOT CHECK CLOCK SWITCH

**DOES NOT CHECK HDLC OR NRZI POSITIONS

TABLE 4-3 (cont)

Routine Number	How to Select	Type of Test	Normal Display				Error Display	Remarks
1 (cont)		Push-Button Check	Push Button	Content Display	Push Button	Content Display	Any display other than listed.	
			0 thru F	0 thru F	TRANSFER	16		
			SYNC	10	CLEAR	17		
			DELAY	11	MODE	18		
			START	12	BUFFER	19		
			BITS/CHAR	14	READ >	1A		
			ENTER	15	READ <	1B		
			NOTE: 13 is not used; therefore, there is a sequence break between the display numbers 12 and 14.					
2	F + MODE, 2 + START	BAUD Switch Check	BAUD Switch Position	LOCATION Display	Timing Switch Position		013 in LOCATION.	
			50	000	SYNC			
			75	001	Check with CLOCK switch in DERIVED and then with CLOCK switch in NORMAL.			
			110	002				
			134.5	003				
			150	004				
			200	005				
			300	006				
			600	007				
			1.2 K	008				
			1.8 K	009				
			2.4 K	010				
			4.8 K	011				
			9.6 K	012				
			DTE	None (display is a decimal point in left CONTENT display).				
			DCE		ASYNC			
			75	008	CHECK with CLOCK switch in NORMAL.			
			110	009				
			150	010				
			300	011				
			600 and above	012				

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